

(No. 2.)

## REPORT OF THE DIRECTOR OF THE MINT.

TREASURY DEPARTMENT,  
BUREAU OF THE MINT,  
*Washington, D. C., November 1, 1887.*

SIR: I have the honor to submit the following report of the operations of the United States Mints and Assay Offices for the fiscal year ended June 30, 1887, being the fifteenth annual report of the Director of the Mint, and the third of the same series by me submitted.

### DEPOSITS AND PURCHASES OF GOLD AND SILVER.

The value of the gold deposited at the mints and assay offices of the United States during the fiscal year 1887, not including re-deposits, was \$68,223,072.87 (3,666,990.170 standard ounces), against \$44,909,749.23 in the preceding year, an excess of \$23,313,323.64 over the fiscal year 1886. In addition, there were re-deposits, that is, United States mint or assay office bars returned, of the value of \$15,193,706.53. Of the re-deposits of gold \$3,517,523.15 represents the value of unparted bars, the product of the minor assay offices of the United States sent in an unparted condition to the mint at Philadelphia for refining and coinage.

The remainder of the re-deposits of gold, \$11,676,183.38, was fine bars bearing the stamp of the United States assay office at New York. Of these, \$7,933,743.98 which had been exported were subsequently imported into the United States and re-deposited during the year.

The value of the total deposits of gold during the fiscal year 1887, including all re-deposits as above cited, was \$83,416,779.40 against \$49,606,534.65 in 1886, an excess in the year 1887 of \$33,810,244.75.

It will be understood that the unparted bars from minor assay offices deposited, or as stated re-deposited, for parting and refining at a coinage mint, and going to make up the total re-deposits at the mint at Philadelphia, are also included along with original deposits at the minor assay offices.

The value of the silver deposited and purchased, not including re-deposits, was \$47,756,918.75 (41,041,102.21 ounces), against \$35,494,183.24 in the preceding year, an excess of \$12,262,735.51.

In addition, there were re-deposits of silver amounting to \$462,113.19. Of these re-deposits \$169,514.91 consisted of fine bars, all of the assay office at New York, except \$1,252.41 of the mint at Philadelphia; and \$292,598.28 of unparted bars, being the value of the silver contained in gold bullion originally deposited at the minor assay offices. The latter value, the same as in the case of gold re-deposited from minor assay offices, is also a part of the total including (original) deposits and re-deposits.

This total, calculated at coining rate in standard silver dollars, was \$48,219,031.94 against \$37,917,026.36 in the preceding year, an excess of \$10,302,005.58.

The total value of both gold and silver deposited and purchased at the mints of the United States during the fiscal year 1887, not including re-deposits, was \$115,979,991.62, and including re-deposits, \$131,635,811.34.

The value of the gold and silver received at the mints and assay offices during the fiscal year 1887 was greater than in any previous year since 1881. A comparison for the past eight years is exhibited in the following table:

VALUE OF GOLD AND SILVER (NOT INCLUDING RE-DEPOSITS) RECEIVED AT THE MINTS AND ASSAY OFFICES DURING THE FISCAL YEARS 1880-1887.

Fiscal years.	Gold.	Silver.	Total.
1880.....	\$98,835,096	\$34,640,522	\$133,475,618
1881.....	130,833,102	30,791,146	161,624,248
1882.....	66,756,652	33,720,491	100,477,143
1883.....	46,347,106	36,869,834	83,216,940
1884.....	46,326,678	36,520,290	82,846,968
1885.....	52,894,075	36,789,774	89,683,849
1886.....	44,909,749	35,494,183	80,403,932
1887.....	68,223,072	47,756,918	115,979,990

The value of the silver in the above table is computed at the coining rate in standard silver dollars, equivalent to \$1.16  $\frac{4}{10}$  per standard ounce.

Of the gold deposited at the mints and assay offices during the year, \$32,973,027.41 was classified as of domestic production, against almost the same amount in the fiscal year 1886.

The value of the foreign gold bullion deposited was \$22,571,328.70, against \$4,317,068.27 in 1886.

The value of the foreign gold coin received and melted was \$9,896,512.28, against \$5,673,565.04 in the year preceding.

The value of the United States gold coin deposited for recoinage, principally by the Treasurer of the United States, was \$516,984.63, against \$393,545.28 in the preceding year.

In addition to the gold bullion both of domestic and foreign production, and the foreign and domestic gold coin deposited, old material in the form of jewelry, bars, old plate, etc., was received containing gold of the value of \$2,265,219.85.

The marked increase in the deposits of gold was at the assay office at New York, the value of the foreign gold bullion and coin deposited at that institution during the year being \$30,621,006.95, exclusive of fine bars of its own manufacture, of the value of \$7,933,743.98, imported and re-deposited.

Of the silver bullion deposited and purchased at the mints and assay offices during the year, \$37,874,259.61 (32,548,191.93 standard ounces) was classified as of domestic production. But, as fully explained in my Report on the Production of the Precious Metals in the United States, 1886, the classification of silver bullion as of domestic production at the mints is necessarily inexact, for the reason that fine silver bars purchased from private refineries in the United States and classified at the mints as of domestic production, are manufactured in part from ore and bullion imported from Mexico and other neighboring countries.

The value of silver bullion of foreign extraction, classified as such, deposited at the mints during the year 1887, was \$1,457,406.01

(1,252,458.30 standard ounces). This bullion corresponds only to foreign silver bullion distinctively known as such.

The value of foreign silver coin deposited during the year was \$350,598.86, against \$812,664.50 in the preceding year.

The value of the United States silver coin deposited (calculated at the coining rate in silver dollars), not including trade-dollars, was \$768,739.32 (660,635.36 standard ounces), most of which consisted of worn and uncurrent silver coins transferred from the Treasury of the United States for recoinage.

Trade-dollars were received mostly by transfer from the Treasury of the United States, and melted. The bullion contained 5,837,791.87 standard ounces, of the coinage value in standard silver dollars of \$6,793,066.89. The transactions in trade-dollars will be more fully explained under a separate heading on the redemption of trade-dollars.

In addition to the foreign and domestic bullion and coin deposited at the mints, silver, consisting of plate, jewelry, and old material generally, of the value of \$512,848.06, was deposited during the year, against \$467,156.36 in the preceding year.

#### COINAGE.

The coinage of the fiscal year 1887 consisted of 98,122,517 pieces, of the value of \$57,703,413.40. It was executed at three coinage mints, namely, the mints at Philadelphia, San Francisco, and New Orleans. The gold coinage consisted of 3,724,720 pieces, of the value of \$22,393,279, of which \$22,280 was in double eagles, \$7,560,670 in eagles, \$14,800,375 in half-eagles, \$3,501 in three-dollar pieces, \$260 in quarter eagles, and \$6,193 in dollars. The gold coinage of the year for depositors was confined to eagles and half-eagles in the proportion of about two of the latter to one of the former. There was also executed the usual complementary coinage, consisting of all other coins of the series, in number sufficient to meet the public demand for proof sets and other cabinet purposes, and as many besides as were deemed enough to prevent overvaluation from immediate rarity. Of the gold coinage, \$22,360,000 was executed at the mint at San Francisco, consisting of \$7,560,000 in eagles and \$14,800,000 in half-eagles.

The silver coinage consisted of 44,231,288 pieces, of the coinage value of \$34,366,483.75, of which \$33,266,831.00 was in silver dollars, executed principally at the mints at Philadelphia and New Orleans, and \$1,095,279.50 in dimes. The remainder, being half-dollars and quarter-dollars, constituted the usual complementary coinage for proof pieces, etc.

A very large minor coinage was executed during the year, consisting of 50,166,509 pieces, of the nominal value of \$943,650.65. Of this coinage, 11,047,523 pieces consisted of 5-cent nickels, 4,232 of 3-cent nickel pieces, and 39,114,754 pieces of bronze cents.

While the *value* of the coinage executed during the fiscal year 1887 was not so great as that of the preceding year, the number of pieces struck largely exceeded the coinage of that year, being 98,122,517 pieces, against 38,384,622 pieces in 1886. The number of gold pieces was less, and the number of silver pieces greater, the latter being 44,231,288 in 1887, against 31,627,157 in 1886. The number of minor coins struck was 50,166,509 in 1887, against 1,706,651 in the preceding year. The volume of business transacted at the coinage mints during the past fiscal year can only be understood and appreciated with reference to the immense coinage executed at the three coinage institutions, namely, 98,122,517 pieces.

The mint at Carson was closed for coinage purposes during the year, although open for the receipt of deposits, practically on the basis of an assay office.

The coinage of the mints was as follows:

COINAGE, FISCAL YEAR 1887.

Description.	Pieces.	Value.
Gold .....	3, 724, 720	\$22, 393, 279. 00
Silver.....	44, 231, 288	34, 366, 483. 75
Minor coins.....	50, 166, 509	943, 650. 65
Total .....	98, 122, 517	57, 703, 413. 40

In the Appendix will be found the usual tables exhibiting the coinage by mints and by denomination of pieces during the fiscal year 1887, and also covering the calendar year 1886.

A table will likewise be found showing the coinage of the mints, by institutions and by denomination of pieces, each calendar year since the organization of the mint at Philadelphia in 1792. This valuable table, which has been compiled with no little care and research, from original sources of information, such as the work-books and delivery books of the coinage mints, has never before appeared. Wherever it differs in any respect from the figures heretofore presented for the same years recourse has been had to the original accounts on file in the office of the Register of the Treasury. It is therefore believed that this table exhibits, as nearly as can be exhibited at this time, the coinage of the mints of the United States by calendar years since the organization of the mint at Philadelphia. It may at least be claimed with confidence that it is as nearly perfect as can be made at present, under the circumstance that the early records of the mint service are neither complete nor in conformity with modern detail of statement.

The principal difficulty in the way of a compilation of coinage by calendar years, arises from the change from calendar to fiscal years made in 1857 in official reports. The coinage, which previous to 1857 had been reported for calendar years, was after that date reported by fiscal years, until 1880, when statements were also made for calendar years.

The local records of the mint at Dahlonega have not survived the disorganization of that institution in 1861. Monthly and annual reports made by the superintendent to the Director of the Mint have been found at Philadelphia, and the original accounts of bullion and coin remain on file in the Treasury Department.

The records of the mint at Charlotte are not in as perfect order as could be wished.

The work-books of the mint at New Orleans show that a coinage was executed at that institution in 1861, between January 26 and May 31, by the State of Louisiana, after the mint was closed against the United States, amounting to \$195,000 in double eagles; and a coinage by the Confederate States of \$59,820 in double eagles:—a total gold coinage during the sequestration of the mint of \$254,820.

In the second and third months of the same year there was also executed by the State of Louisiana at the United States mint in the city of New Orleans a silver coinage of \$620,000 in half dollars; and by the Confederate States in the following months of April and May, \$481,316.50:—a total silver coinage of half-dollars by the State of Louisiana and the Con-



federate States of \$1,101,316.50; from regular dies of the United States supplied late in 1860 for the following year. For obvious reasons, neither of the coinages executed at the United States mint at New Orleans, while out of the control of the Government, has ever been taken up in statements of the coinage of the United States.

Thirty-two pairs of dies of the date of 1861, more or less complete, and of all denominations of United States coins, were found at the mint by the agent of this Bureau in January, 1885, and by him destroyed on the 15th of that month.

It is presumed that the larger part, if not the whole, of the gold coin struck, as above described, from United States coinage dies under other than legal auspices, was applied to purchases abroad, and that accordingly it has long since been melted down without ever having appeared in any form in domestic circulation.

The following very interesting statement of the above incidents in the history of the coinage from dies of 1861 is from the pen of Dr. M. F. Bonzano, melter and refiner of the mint at New Orleans during the period in question:

NEW ORLEANS, *November 4, 1887.*

SIR: In compliance with the request contained in your letter of the 27th ultimo, to furnish such information as I might have in regard to the coinage at the United States branch mint at New Orleans during its occupation by the State of Louisiana and the Confederate States in the early part of 1861, I beg leave to make the following statement:

The officers of the United States branch mint at the time of the secession of the State of Louisiana from the Union were: William A. Elmore, superintendent; A. J. Guirot, treasurer and ex-officio assistant treasurer United States; Howard Millspaugh, assayer; B. F. Taylor, coiner; M. F. Bonzano, melter and refiner.

The branch mint and its contents and all other property of the United States were "taken in trust" by the secession convention in December, 1860, through a committee of the convention, at the head of which was the president of the convention, Ex-Gov. A. Mouton. The committee called at the mint, ascertained the amount of bullion in the hands of the treasurer, melter and refiner, and coiner, and required a special bond for the same from each of these officers. A rough settlement was made and all dies of 1860 defaced in the presence of all the officers (except Mr. Guirot). By order of the superintendent coinage was immediately resumed with the new dies of 1861, and continued until the 31st of May, 1861, when a final settlement was made and all bullion transferred to Mr. A. J. Guirot, who had in the mean time been appointed assistant treasurer of the Confederate States. At the same time all the United States dies, of every description—after careful examination and recognized agreement with the coiner's die account—were, with the consent of the coiner, and in my presence, defaced by the late Mr. John F. Brown, the foreman of the department, with the assistance of a workman, the late Mr. Richard Stevenson.

Under the auspices of the superintendent, treasurer, and coiner, who probably believed in the possibility of a peaceful secession, designs for a Confederate coin were made, and that of a half dollar by the coiner, accepted and executed by an engraver of this city, who produced a half-dollar die of such high relief as rendered it impracticable for use in a coining press. From this die four pieces were struck, by successive blows of a screw-press. These four pieces differed from the United States standard only in the legend. I never saw any of these pieces, nor the die, and only the preliminary sketch of it. My information was derived from Mr. John F. Brown, at the time. With the exception of these four pieces no coins of any kind, differing from the United States standard, were ever made at the New Orleans branch mint during the interval from May 31, 1861, to the early part of 1879.

On my return to this city, June 7, 1862, after an absence, at the North, of eleven months, I took charge of the mint as special agent of the Treasury Department; found the canceled or defaced dies undisturbed and intact in the coiner's vault and retained them in my custody until the latter part of December, 1878, when I delivered them, as coiner, to my successor, Mr. M. V. Davis, in the same packages as they were on the 31st of May, 1861. Thenceforth my connection with, and knowledge of, these canceled dies ceased.

I have the honor to be, yours, very respectfully,

M. F. BONZANO.

HON. JAS. P. KIMBALL,  
*Director of the Mint, Washington, D. C.*

## MANUFACTURE OF GOLD AND SILVER BARS.

In addition to the coinage executed during the year, gold and silver bars were manufactured as follows:

## BARS MADE, 1887.

Gold .....	\$58,188,953.66
Silver.....	6,481,611.25
Total.....	64,670,564.91

The corresponding values for the preceding year were:

## BARS MADE, 1886.

Gold .....	\$19,031,809.21
Silver.....	8,236,223.77
Total.....	27,268,032.98

Most of the bars were manufactured at the United States assay office at New York, the value of the bars made at that institution during the fiscal year 1887 being:

## BARS MADE AT ASSAY OFFICE AT NEW YORK, 1887.

Gold .....	\$53,945,369.57
Silver.....	5,565,095.65
Total.....	59,510,465.22

against \$22,541,978.43 in the preceding year.

The bars manufactured at the minor assay offices were "unparted bars," that is, deposits of gold and silver melted, and only partially refined by fluxing off base metals. Most of these bars were transmitted to the mint at Philadelphia for refining and coinage.

## MEDALS AND DIES MANUFACTURED.

The number of medals made at the mint at Philadelphia during the fiscal year ended June 30, 1887, was as follows:

Gold.....	56
Silver .....	436
Bronze .....	157
Total .....	649

The number of medals sold during the year was 590, valued at \$3,240.20. Proof sets of the coinage of the year were also sold to the number of 3,786, for which there was charged \$4,060.40. The profit on the sale of medals and proof sets was \$1,916.28.

Of the coinage and medal dies, numbering 1,198, manufactured at the mint at Philadelphia during the fiscal year 1887, 120 were for gold coinage, 359 for silver coinage, 684 for minor coinage, 27 for proof coinage, and 8 were medal dies.

The cost of engraving the dies for the coinage of the mints at San Francisco and New Orleans was reimbursed the mint at Philadelphia from the appropriations for the institutions for which the dies were prepared.

In the Appendix will be found a statement exhibiting in detail dies manufactured for each of the coinage mints.

## EXCHANGE OF GOLD BARS FOR GOLD COIN.

Under the act of May 26, 1882, the mints of the United States and the assay office at New York are authorized to exchange gold bars for deposits of United States gold coin when presented in sums of not less than \$5,000.

The value of the bars so exchanged for coin at the mint at Philadelphia and at the assay office at New York during the fiscal year 1887 was \$7,604,059.89, against \$31,593,748.81 in 1886. This shows a large falling off in the demand for gold bars for export, which is the principal purpose of their exchange. The value of the bars exchanged for coin each month of the fiscal year at each of the institutions named is exhibited in the following table:

STATEMENT BY MONTHS OF FINE GOLD BARS EXCHANGED FOR GOLD COIN  
AT THE MINT AT PHILADELPHIA AND ASSAY OFFICE AT NEW YORK FROM  
JULY 1, 1886, TO JULY 1, 1887.

Date.	Philadelphia.	New York.	Total.
1886.			
July .....	\$30,102.40	\$1,068,874.32	\$1,098,976.72
August .....	35,125.96	377,804.86	412,930.82
September .....	50,177.19	600,972.21	651,149.40
October .....	35,122.07	545,926.47	581,048.54
November .....	50,177.82	528,592.65	578,770.47
December .....	30,109.20	328,762.41	358,871.61
1887.			
January .....	40,137.19	354,764.56	394,901.75
February .....	35,121.03	1,289,670.54	1,324,791.57
March .....	60,212.61	621,341.33	681,553.94
April .....	40,140.69	522,889.94	563,030.63
May .....	40,153.11	478,966.99	519,120.10
June .....	25,088.67	413,825.67	438,914.34
Total .....	471,667.94	7,132,391.95	7,604,059.89

## REFINING BY ACID.

The acid refineries of the assay office at New York and of the coinage mints, including the mint at Carson, have received during the year for refining, and for parting of the precious metals, 6,111,121 gross ounces, containing gold and silver of the value of \$30,397,422.

The value of the gold and silver product of the acid refineries during the year was as follows:

Bullion.	Standard ounces.	Value.
Gold .....	1,329,631	\$24,737,320
Silver .....	4,864,152	5,660,102
Total .....	6,193,783	30,397,422

This sum was against \$27,786,006 in the preceding year, an increase in the value of the bullion refined of \$2,611,416.

A considerable increase will be noticed in the value of the gold bullion refined in 1887 as compared with the returns of the year preceding, namely, \$24,737,320 against \$20,896,613. The value of the silver refined was, on the other hand, less, namely, \$5,660,102 in 1887 against \$6,889,393 in 1886. As on several occasions I have taken occasion to indicate, a smaller proportion of the silver product of the mines of the United States is received each year at the Government institutions for refining, the bulk of it going to the large private refineries. But the amount of gold sent to the Government institutions is annually increasing.

While nearly the whole production of gold in the United States eventually finds its way either directly or through the assay offices of the United States to the mints for coinage or manufacture into bars, only so much of the silver product as may be required for coinage or deposited for bars, or about five-sixths of the whole, reaches the mints.

This is mainly in the form of refined silver as turned out by private refineries. It is in this form that all purchases of silver bullion are made, except those in the form of partings from gold deposits at mints and assay offices, occasional purchases of doré silver for the technical requirements of acid refineries, and deposits of silver in lots less than 10,000 ounces.

The following table exhibits the weight and value of the bullion treated by the refineries of the mints and of the assay office at New York, and the weight and value of the precious metals extracted during the year 1887:

Mint or assay office.	Gross ounces.	Gold.		Silver.		Total value.
		Standard ounces.	Value.	Standard ounces.	Value.	
Philadelphia.....	721,765	190,539	\$3,544,912	553,437	\$643,999	\$4,188,911
San Francisco.....	1,506,217	365,970	1,808,744	1,248,071	1,452,300	8,261,044
Carson.....	45,447	3,606	67,088	45,665	53,137	120,225
New Orleans.....	15,544	4,840	90,046	11,167	12,994	103,040
New York.....	3,822,148	764,676	14,226,530	3,005,812	3,497,672	17,724,202
Total.....	6,111,121	1,329,631	24,737,320	4,864,152	5,660,102	30,397,422

#### SILVER PURCHASES.

Purchases of bullion for the standard silver dollar coinage were made during the year in the manner explained in my last annual report. Since the second of March, 1887, the offers of lots of over ten thousand ounces, received on Tuesday and Friday of each week, have been addressed to the Director of the Mint, as was the case previous to July 14, 1885, when, at his own request, this Bureau was relieved from the immediate receipt of proposals.

The amount of silver bullion delivered during the year in lots of over ten thousand ounces, upon purchases made by the Secretary of the Treasury through the Bureau of the Mint, was 29,018,932.12 standard ounces, at a cost of \$25,624,487.37, or an average cost per standard ounce of \$0.883026, or of \$0.98114 per ounce fine.

The average London price for the year, computed from daily quotations by cable to the Bureau of the Mint, was 44.843 pence per ounce for silver .925, British standard. This, at the average rate, \$4.8590, of sterling sight exchange, is equal to \$0.98148 per ounce fine, or \$0.88333 per ounce .900 United States standard.

The purchases made by the superintendents of the mints at San Francisco, Carson, Philadelphia, and New Orleans of lots of less than ten thousand ounces, at prices fixed from time to time by the Director of the Mint, amounted to 282,626.95 standard ounces, at a cost of \$249,150.73. The amount of silver purchased in the form of bar fractions, together with the amount parted from gold deposits and received in payment of charges on deposits of silver bullion for return in fine bars, was 131,783.20 standard ounces, costing \$114,982.36.

The total amount of silver purchased in the two ways above stated, for the standard silver dollar coinage during the fiscal year was 29,433,342.27 standard ounces, at a cost of \$25,988,620.46. The average cost per standard ounce was \$0.883965, equal to \$0.981072 per fine ounce.

The number of ounces and cost of silver bullion delivered upon purchases for the silver-dollar coinage during the year are shown in the following table:

Mode of acquisition.	Standard ounces.	Cost.
Purchases, Treasury Department, Bureau of the Mint.....	29,018,932.12	\$25,624,487.37
Purchases by mint officers.....	282,626.95	249,150.73
Partings, bar charges and fractions.....	131,783.20	114,982.36
Total delivered on purchases.....	29,433,342.27	25,988,620.46
Balance on hand July 1, 1886.....	3,258,495.66	2,960,969.02
Available for coinage of silver dollars during the fiscal year 1887.....	32,691,837.93	28,949,589.48

At the beginning of the fiscal year 1887 there was on hand at the mints at Philadelphia, New Orleans, and San Francisco, as above stated, silver bullion previously purchased for the silver dollar coinage amounting to 3,258,495.66 standard ounces, of the cost value of \$2,960,969.02. There was delivered at the mints on purchases of all kinds during the year, as above, 29,433,342.27 standard ounces, at a cost of \$25,988,620.46, making the total amount of silver available during the fiscal year for the silver dollar coinage 32,691,837.93 standard ounces, costing \$28,949,589.48.

The amount and cost of silver bullion delivered on purchases at the several mints are exhibited in the following table:

Mints.	Standard ounces.	Cost.
Philadelphia.....	18,751,084.06	\$16,546,243.71
New Orleans.....	10,056,069.92	8,881,509.04
San Francisco.....	581,524.92	520,240.05
Carson.....	44,643.37	40,627.66
Total.....	29,433,342.27	25,988,620.46

There were manufactured during the year, by three mints, 33,266,831 silver dollars. The amount of silver used in this coinage was 28,588,682.89 standard ounces, the cost of which was \$25,343,272.39. In addition to this employment there was wasted by the operative officers 15,337.87 standard ounces, costing \$13,473.13, and sold in sweeps 35,548.50 standard ounces, costing \$31,994.86, making the total amount

of silver used in the silver dollar coinage 28,639,569.26 standard ounces, costing \$25,388,740.51.

The seignorage on silver dollars coined during the year was \$7,923,558.61.

The amount and cost of silver bullion available for the silver dollar coinage at the several mints, June 30, 1887, are set forth in the following table:

Mints.	Standard ounces.	Cost.
Philadelphia.....	2, 116, 768. 08	\$1, 849, 874. 10
New Orleans.....	1, 558, 213. 68	1, 367, 986. 85
San Francisco.....	332, 643. 54	302, 860. 36
Carson.....	44, 643. 38	40, 627. 66
Total .....	4, 052, 268. 68	3, 560, 848. 97

In the Appendix will be found tables exhibiting by months the amount and cost of silver delivered on purchases, and the amount and cost of silver employed, and also the number of silver dollars coined monthly at the several mints.

#### PRICE OF SILVER.

The average price of silver in London during the fiscal year 1887, computed from daily dispatches by cable to the Bureau of the Mint, was 44.843 pence, British standard (.925 fine). At the average rate of exchange for the year (\$4.8590) the equivalent of an ounce of fine silver was, in United States money, \$0.98148.

Commencing in April, 1886, a marked decline took place in the price of silver, continuing until early in August it reached 42 pence. The average price in April, 1886, was 46.386 pence, equivalent, at the rate of exchange, to \$1.02032 per ounce fine.

The average price for the month of August, 1886, was 42.310 pence, equivalent to \$0.92333 per ounce fine, a decline of more than 9½ cents an ounce in the short period of four months. The decline was arrested in August by liberal purchase of silver in the London market on French account. The appointment about this time by the British Government of a royal commission to inquire into the recent changes in the relative values of the precious metals probably had a tendency to steady the price. The price commenced to advance in August, 1886, and continued to advance, with slight fluctuations, until January 28, 1887, when it reached its highest point, namely, 47½ pence, equivalent to \$1.03303. The average price for the month of January, 1887, was 46.833 pence, equivalent to \$1.02672 per ounce fine, a gain since August of nearly 10 cents an ounce, and one-half cent higher than the average for April, 1886.

In January commenced another decline, which continued until June, 1887. The average price for the latter month was 43.968 pence, equivalent to \$0.96383 per ounce fine.

The closing price for the month of June was 44½ pence, equivalent, at par of exchange, to \$0.9659 per ounce fine.

Since the first of July the price has varied but little, the lowest price being 43½ pence and the highest 45 pence. The price at the present writing (November 1, 1887) is 43½ pence, equivalent, at the par of exchange, to \$0.9632 per ounce fine, or, at the actual rate of sight exchange to \$0.9599 per ounce fine.

The price paid by this Bureau on November 1, 1887, for silver purchases for the silver dollar coinage was \$0.9580 per ounce fine.

The following table shows the highest, lowest, and average price of silver bullion in London each month during the calendar year 1886, computed from daily dispatches by cable to the Bureau of the Mint:

Months.	Highest.	Lowest.	Average.	Value in United States money.
1886.	<i>Pence.</i>	<i>Pence.</i>	<i>Pence.</i>	<i>Per oz. fine.</i>
January .....	47	46 $\frac{7}{8}$	46.733	\$1.02444
February .....	46 $\frac{1}{2}$	46 $\frac{1}{2}$	46.685	1.02339
March .....	46 $\frac{1}{2}$	46 $\frac{1}{8}$	46.766	1.02517
April .....	46 $\frac{1}{8}$	46	46.386	1.01683
May .....	46	44 $\frac{3}{4}$	45.425	0.99577
June .....	45 $\frac{1}{2}$	44 $\frac{1}{2}$	44.835	0.98283
July .....	44 $\frac{1}{2}$	42	43.873	0.96175
August .....	42 $\frac{1}{2}$	42	42.310	0.92748
September .....	44 $\frac{1}{2}$	42 $\frac{1}{2}$	43.841	0.96105
October .....	45 $\frac{1}{2}$	44 $\frac{1}{2}$	45.089	0.98840
November .....	47	45 $\frac{1}{2}$	46.466	1.01903
December .....	46 $\frac{1}{2}$	45 $\frac{1}{2}$	46.068	1.00986
Average for the year .....			45.375	0.99467

The average price of silver each month during the fiscal year 1887, and the equivalent with par of exchange and also at current rate, as well as the average monthly price of fine bar silver in New York, are exhibited in the following table:

AVERAGE MONTHLY PRICE OF SILVER BULLION, 925 THOUSANDTHS FINE, IN LONDON, AND THE VALUE OF A FINE OUNCE, DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

[Compiled from daily telegraphic cable dispatches to the Bureau of the Mint.]

Date.	Price per ounce, British standard, 925 thousandths fine.	Equivalent in U. S. money, per ounce fine, with exchange at par, \$4.8665.	Average monthly price at New York of exchange on London.	Equivalent in U. S. money of fine bar-silver, 1,000 fine, based on average monthly London quotations, with exchange at average monthly rate.	Average monthly New York price of fine bar-silver.
1886.	<i>Pence.</i>				
July .....	43.873	\$0.96175	\$4.8776	\$0.96395	\$0.97304
August .....	42.310	0.92748	4.8450	0.92333	0.93000
September .....	43.841	0.96105	4.8455	0.95691	0.95955
October .....	45.089	0.98840	4.8415	0.98333	0.98620
November .....	46.486	1.01903	4.8437	1.01424	1.01703
December .....	46.068	1.00986	4.8375	1.00384	1.00640
1887.					
January .....	46.833	1.02663	4.8616	1.02560	1.02620
February .....	46.660	1.02284	4.8843	1.02669	1.02792
March .....	45.440	0.99610	4.8712	0.99706	1.00093
April .....	43.964	0.96374	4.8724	0.96490	0.96500
May .....	43.580	0.95532	4.8729	0.95658	0.95845
June .....	43.968	0.96383	4.8538	0.96130	0.96207
Average .....	44.843	0.98301	4.8590	0.98148	0.98439

## DISTRIBUTION OF SILVER DOLLARS.

The silver dollars in the coinage mints on the 1st July, 1886; the number coined during the year, and the distribution of the same under section 3527 of the Revised Statutes, as well as the amount transferred to the Treasury of the United States, are exhibited in the following table:

Period.	Philadelphia.	San Francisco.	New Orleans.	Carson.	Total.
On hand June 30, 1886 .....	\$27, 974, 020	\$19, 229, 530	\$3, 279, 237	.....	\$50, 482, 787
Coinage of fiscal year 1887 .....	21, 290, 831	766, 000	11, 210, 000	.....	33, 266, 831
Total .....	49, 264, 851	19, 995, 530	14, 489, 237	.....	83, 749, 618
Transferred to United States Treasury .....	10, 500, 000	.....	.....	.....	10, 500, 000
Balance.....	38, 764, 851	19, 995, 530	14, 489, 237	.....	73, 249, 618
Transferred to the United States mint at Carson .....	.....	25, 000	.....	.....	.....
Transferred from United States mint at San Francisco .....	.....	.....	.....	\$25, 000	.....
Available for distribution.....	38, 764, 851	19, 970, 530	14, 489, 237	25, 000	73, 249, 618
In mints June 30, 1887 .....	35, 386, 110	18, 788, 015	8, 163, 744	9, 821	62, 347, 690
Distributed.....	3, 378, 741	1, 182, 515	6, 325, 493	15, 179	10, 901, 928

From this table it appears that 10,901,928 silver dollars were distributed from the mints, and 10,500,000 transferred to the Treasury, making a total of 21,401,928 silver dollars paid out by the mints.

## CIRCULATION OF SILVER DOLLARS.

The following table shows the total coinage of silver dollars, the number held by the Treasury for the redemption of certificates, the number held in excess of outstanding certificates, and the number in circulation at the end of each six months from July 1, 1885, to July 1, 1887; also on October 1, 1887:

Period.	Total coinage.	In the Treasury.		In circulation.
		Held for payments of certificates outstanding.	Held in excess of certificates outstanding.	
July 1, 1885 .....	\$203, 884, 331	\$101, 530, 946	\$63, 882, 166	\$38, 471, 269
January 1, 1886 .....	218, 259, 761	93, 179, 465	72, 538, 725	52, 541, 571
July 1, 1886 .....	233, 723, 286	88, 116, 225	93, 137, 341	52, 469, 720
January 1, 1887 .....	249, 683, 647	117, 246, 670	71, 259, 568	61, 177, 409
July 1, 1887 .....	266, 990, 117	142, 118, 017	69, 365, 953	55, 506, 147
October 1, 1887 .....	273, 660, 157	154, 354, 826	58, 688, 970	60, 616, 361

## SUBSIDIARY SILVER COINAGE.

The silver bullion available for subsidiary silver coinage on hand July 1, 1886, was 4,871.54 standard ounces, costing \$5,868.53. All of this was at the mint at Philadelphia, and consisted of bullion resulting from the melting of worn and uncurrent silver coin transferred for recoinage, and of bullion transferred from the assay office at New York during the preceding fiscal year.

To supply the silver bullion necessary for the coinage of dimes re-



quired by the Treasury of the United States and the general public, uncurrent and worn silver coins, together with trade-dollars redeemed under the act of March 3, 1887, were transferred from time to time by direction of the Secretary of the Treasury to the mints at Philadelphia and San Francisco (principally the former) for recoinage.

The weight of metal of standard fineness contained in the coins thus transferred from the Treasury for recoinage, and cost of the metal to the several mints, are shown in the following table :

Mint.	Uncurrent coin.		Trade-dollars.		Total.	
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
San Francisco .	31, 999. 36	\$39, 812. 60	524, 636. 70	\$603, 000. 00	556, 636. 06	\$642, 812. 60
Philadelphia...	571, 725. 79	711, 322. 91	2, 475, 462. 00	2, 844, 813. 00	3, 047, 187. 79	3, 556, 135. 91
Total ....	603, 725. 15	751, 135. 51	3, 000, 098. 70	3, 447, 813. 00	3, 603, 823. 85	4, 198, 948. 51

In addition to the transfer above stated there was transferred from the assay office at New York to the mint at Philadelphia, for subsidiary silver coinage, 31,473.49 ounces of standard silver bullion, costing \$31,473.49. These amounts, with the balance on hand July 1, 1886, make the total silver bullion available at the mints during the year for subsidiary silver coinage 3,635,297.34 standard ounces, costing \$4,230,422.

The amount and cost of the bullion so employed, and the nominal value of the subsidiary coins manufactured by the mints at Philadelphia and San Francisco during the twelve months ended June 30, 1887, from silver bullion derived from the sources above enumerated, are exhibited by the following statement :

## MINT AT PHILADELPHIA.

Sources from which bullion was derived.	Standard ounces employed.	Cost.	Tale value of coinage.
From worn and uncurrent silver coins transferred.....	574, 636. 05	\$715, 009. 70	\$715, 009. 70
From trade dollars transferred.....	206, 563. 75	237, 386. 32	257, 000. 00
From silver bullion transferred from assay office at New York.....	30, 406. 22	30, 679. 66	37, 830. 45
Total.....	811, 659. 02	983, 075. 68	1, 009, 840. 15

## MINT AT SAN FRANCISCO.

From worn and uncurrent silver coins transferred.....	31, 999. 36	\$39, 812. 60	\$39, 812. 60
From trade dollars transferred.....	40, 187. 50	46, 190. 18	50, 000. 00
From silver bullion transferred from assay office at New York.....			
Total.....	72, 186. 86	86, 002. 78	89, 812. 60

## TOTALS.

From worn and uncurrent silver coins transferred.....	606, 688. 41	\$754, 822. 30	\$754, 822. 30
From trade dollars transferred.....	246, 751. 25	283, 576. 50	307, 000. 00
From silver bullion transferred from assay office at New York.....	30, 406. 22	30, 679. 66	37, 830. 45
Total.....	883, 845. 88	1, 069, 078. 46	1, 099, 652. 75

The subsidiary silver coin manufactured during the fiscal year was of the following denominations and values:

Denomination.	Value.
Half-dollars .....	\$2, 915. 50
Quarter-dollars .....	1, 457. 75
Dimes .....	1, 095, 279. 50
Total .....	1, 099, 652. 75

The seignorage upon the subsidiary silver coinage executed during the year was as follows:

From recoinage of half and quarter-dollars coined prior to 1853, and of silver dollars coined prior to 1873 transferred, as uncurrent coin, for recoinage.....	\$1, 130. 65
From trade dollars transferred.....	23, 423. 50
From silver bullion purchased .....	7, 150. 79
Total.....	31, 704. 94

The amount and cost of silver bullion on hand at the mints at Philadelphia and San Francisco available, June 30, 1887, for subsidiary silver coinage, are shown in the following table:

Character.	Mints.				Total.	
	Philadelphia.		San Francisco.			
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
Of worn and uncurrent silver coins . . .	. 07	\$0. 09	.....	.....	. 07	\$0. 09
Trade-dollar bullion . . .	2, 268, 898. 25	2, 607, 426. 68	484, 449. 20	\$556, 809. 82	2, 753, 347. 45	3, 164, 236. 50
Bullion transferred . . .	2, 975. 48	2, 975. 48	.....	.....	2, 975. 48	2, 975. 48
Total . . . . .	2, 271, 873. 80	2, 610, 402. 25	484, 449. 20	556, 809. 82	2, 756, 323. 00	3, 167, 212. 07

The demand for dimes during the last fiscal year was constant and urgent, and still continues. It is probable that there will be no abatement in the demand for coins of this denomination for some time to come. It will therefore probably be desirable to recoin the greater portion of trade-dollar bullion into dimes.

Notwithstanding the pressure upon it for dollars and minor coin, the mint at Philadelphia was called upon to execute by far the greater amount of the dime coinage for the following reasons:

(1) It was the most convenient mint to which the uncurrent coins in the sub-treasuries outside of New Orleans and San Francisco could be transferred for recoinage, as also the trade-dollars, the larger portion of which were redeemed by the sub-treasuries at New York, Philadelphia, and Baltimore.

(2) The demand for dimes coming almost exclusively from points east of the Rocky Mountains, the coins could be more rapidly and economically distributed from that mint.

## SEIGNORAGE ON SILVER COINAGE.

The seignorage, or immediate gross profit, on the coinage of silver dollars, that is, the difference between the cost of the bullion and the nominal value of the coins, during the fiscal year 1887, was \$7,923,558.61.

The seignorage on subsidiary coin manufactured during the year was \$31,704.94, of which \$1,130.65 was gained from the recoinage of old subsidiary coins in the Treasury.

The total seignorage on the silver coinage during the fiscal year was \$7,955,263.55.

As stated in my last fiscal report,\* the balance of silver profits remaining in the coinage mints on the 1st July, 1886, amounted to \$553,201.44.

Adding to this the seignorage of the year, the total gross silver profits to be accounted for by the mints is \$8,508,464.99.

Of this there was paid for expenses of distributing silver coin \$35,059.03, and reimbursed for wastage and loss on sale of sweeps \$20,294.88.

There was deposited in the Treasury of the United States \$8,302,465.13, leaving in the mints at Philadelphia, San Francisco, and New Orleans on June 30, 1887, the sum of \$150,645.95.

This balance has since been covered into the Treasury.

The usual annual statement of the seignorage at each institution on the manufacture of standard silver dollars and of subsidiary silver coin separately, as well as the disposition of the profits, will be found in the Appendix.

The seignorage on the coinage of silver at the mints of the United States from July 1, 1878, to the close of the fiscal year ended June 30, 1887, has amounted to \$39,057,566.90.

Adding the balance of silver profits in the mints on the 1st July, 1878 (the beginning of the fiscal year following the passage of the act providing for the coinage of the silver dollar), \$424,725.47; and also the sum of \$9,237.54 refunded by Adams Express Company for overcharges in bills for shipping silver dollars; and the further sum of \$4,560.30, profits from surplus silver bullion and from adjustments of silver values, not strictly seignorage on silver coinage, but carried to the credit of the silver profit fund; makes a total of \$39,496,090.21 of silver profits since that period to be accounted for.

Of this the sum of \$686,600.68 has been paid for expenses of distributing silver coins, including \$9,237.54 afterwards refunded by the express company, as above explained.

The further sum of \$208,211.90 has been reimbursed for wastage incurred in the coinage of silver dollars and for loss on the sale of sweeps attending that coinage.

The net profit, including the balance in the mints on the 1st July, 1878, on the manufacture of silver coins for the nine years ended June 30, 1887, amounted to \$38,601,277.63.

Of this there has been deposited in the Treasury of the United States by covering warrants prior to the close of the fiscal year ended June 30, 1887, the sum of \$38,450,631.68. The balance, \$150,645.95, in the mints at Philadelphia, San Francisco, and New Orleans, on the 30th day of June, 1887, has since been covered into the Treasury, as shown by certificates of deposit enumerated in the statement of seignorage in the Appendix.

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\* *Vide* pp. 18 and 98.

## COINAGE AND REDEMPTION OF THE TRADE DOLLAR.

The act of February 12, 1873, which revised the laws relative to the mints and coinage, provided, section 15, that the silver coins of the United States should be a trade-dollar, a half-dollar or fifty-cent piece, a quarter-dollar or twenty-five cent piece, a dime or ten-cent piece; that the weight of the trade dollar should be 420 grains Troy; and that said coins should be a legal tender at their nominal value for any amount not exceeding \$5 in any one payment.

Section 21 of the same act provided that any owner of silver bullion might deposit the same at any mint to be formed into bars or into dollars of the weight of 420 grains Troy, designated in that act as "trade-dollars," and that no deposit of silver for other coinage should be received.

The joint resolution of Congress of July 22, 1876 (section 2), provided that the trade-dollar should not thereafter be a legal tender, and the Secretary of the Treasury was authorized to limit, from time to time, the coinage thereof to such an amount as he might deem necessary to meet the export demand.

In October, 1877, the Secretary of the Treasury directed that the receipt of deposits of silver for coinage into trade-dollars be discontinued. On account of a supposed demand for export, this order was so modified as to admit of the receipt of deposits at the western mints for return in these coins. It was afterwards discovered that instead of being shipped abroad, many if not most of them were placed in domestic circulation. An order was therefore issued February 22, 1878, finally discontinuing receipt of deposits for trade-dollars.

By the act of March 3, 1887, Congress provided that for a period of six months after the passage of that act, trade-dollars not defaced, mutilated, or stamped should be received at certain offices of the Treasury Department in exchange for a like amount, dollar for dollar, of standard silver dollars, or of subsidiary coins of the United States, and that the trade-dollars so received should not be paid out, but recoined into silver dollars or subsidiary coin. By the same act the provision of law authorizing the coinage of trade-dollars was repealed.

The number of trade-dollars coined at the mints of the United States is exhibited by calendar years in the following table:

Calendar years.	Philadelphia.	San Francisco	Carson.	Total.
1873.....	397,500	703,000	124,500	1,225,000
1874.....	997,800	2,549,000	1,373,200	4,910,000
1875.....	218,900	4,487,000	1,573,700	6,279,600
1876.....	456,150	5,227,000	509,000	6,192,150
1877.....	3,039,710	9,519,000	534,000	13,092,710
1878.....	*900	4,162,000	97,000	4,259,900
1879.....	*1,541	.....	.....	1,541
1880.....	*1,987	.....	.....	1,987
1881.....	*960	.....	.....	960
1882.....	*1,097	.....	.....	1,097
1883.....	*979	.....	.....	979
Total.....	5,107,524	28,647,000	4,211,400	35,965,924

\* Issued as "proof pieces."

A table of coinage by months will be found in the Appendix.

Of the total coinage of trade-dollars there was coined prior to the passage of the joint resolution of July 22, 1876, taking away the limited tender quality, the value of \$15,631,450; and from that date to the suspension of the coinage, \$20,327,910. Proof pieces have since been coined amounting to \$6,564, making the total coinage of trade-dollars as stated \$35,965,924.

All possible efforts have been made by this Bureau, with the co-operation of the Bureau of Statistics, to ascertain the number of trade-dollars exported from the United States, and the number imported. Statements of trade-dollars were not given in collectors' returns of exports prior to 1877, nor in imports, except for the years 1880 and 1881. After 1881 no trade-dollars were reported by collectors of customs as imported until after the passage of the act authorizing their redemption, when, at the request of this Bureau, subsequent importations were kept separate.

In the following table, which exhibits the imports and exports of trade-dollars as far as known, the exports for the fiscal years 1874, 1875, and 1876 are partly estimates based upon information obtained by the Director of the Mint from the collectors of customs at the ports of San Francisco and New York.

EXPORTS AND IMPORTS OF TRADE-DOLLARS TO SEPTEMBER 4, 1887.

Fiscal years.	Exports.	Imports.
1874.....	*3,000,000	.....
1875.....	*4,500,000	.....
1876.....	*4,500,000	.....
1877.....	8,672,596	.....
1878.....	5,166,006	.....
1879.....	1,238,749	.....
1880.....	43,383	783,062
1881.....	20	92,397
1882.....	3,600	.....
1883.....	1,000	.....
1884.....	225,500	.....
1885.....	1,073,150	.....
1886.....	354,848	.....
1887.....	10	766,483
1888 (to September 4, 1887).....	.....	64,078
	28,778,862	1,706,020
	1,706,020	
Net Export.....	27,072,842	

\* "Partly estimated." (Annual Report of the Director of the Mint, fiscal year 1879, p. 130.)  
 Total exports prior to November 1, 1878—exact period not stated—25,703,950. (Annual Report of the Director of the Mint, fiscal year 1878, p. 12.)

Of the total imports of trade-dollars, 830,561 have been imported into the United States since the passage of the act of March 3, 1887, authorizing their redemption.

The amount imported each month from February 1 to September 4, 1887, is exhibited in the following table:

Months.	At the port of New York.	At the port of San Francisco.	Total.
February, 1887.....			
March, 1887.....	\$202		\$202
April, 1887.....	131	\$376, 800	376, 931
May, 1887.....	153, 627	139, 300	292, 927
June, 1887.....	579	95, 844	96, 423
July, 1887.....		63, 139	63, 139
August, 1887.....	939		939
September, 1887.....			
Total.....	155, 478	675, 083	830, 561

Of the trade-dollars coined at the mints of the United States it is known that 919,459 have from time to time been deposited as bullion and melted at the mints and at the assay office at New York.

The approximate amount so melted at each institution is exhibited in the following table:

Institutions.	Before.	Since.
Mint at Philadelphia.....	865, 725	2, 423
Mint at San Francisco.....	723	
Mint at Carson.....	44, 164	
Mint at New Orleans.....	192	1
Assay office at New York.....	4, 542	1, 689
	915, 346	4, 113
	919, 459	

Information as to the number of trade-dollars melted at the assay office at New York and at the coinage mints, though comparatively full for the period since the act of March 3, is incomplete as to any earlier period, no specific record having been kept of the number of trade-dollars contained in miscellaneous silver deposits.

The number of trade-dollars redeemed by the Treasury of the United States under the provisions of the act of March 3, 1887, was 7,689,036, as follows:

Office.	Number.
U. S. Treasury, Washington.....	52, 298
U. S. Sub-treasuries—	
Baltimore.....	446, 160
New York.....	3, 495, 533
Philadelphia.....	2, 595, 070
Boston.....	39, 096
Cincinnati.....	241, 150
Chicago.....	36, 080
Saint Louis.....	17, 515
New Orleans.....	1, 871
San Francisco.....	764, 263
Total.....	7, 689, 036

When the measure for the redemption of trade-dollars was before Congress, the Bureau of the Mint was called upon for an estimate of the number of trade-dollars which had passed into domestic circulation and were presumed to be still in the hands of citizens of the United States pending the action of Congress upon the public question of their redemption.

The approximate estimate of this Bureau was some \$7,000,000. This estimate was remarkably borne out by the actual redemption, this having amounted to \$7,689,036, of which the value of \$675,083 was imported from China and Japan subsequent to the passage of the act authorizing redemption. The total estimate by this Bureau was therefore within \$13,953 of the final redemption.

The close approximation of the estimate of this Bureau, as it has finally proved, is all the more noteworthy from the well-known circumstance that this was far from conceded when first offered, another estimate by high authority having been some three times greater.

REVISED AND FINAL STATEMENT OF TRADE-DOLLARS COINED, EXPORTED, IMPORTED, MELTED, AND REDEEMED (ACT OF MARCH 3, 1887).

Coined:				
Mint at Philadelphia .....		\$5,107,524		
Mint at San Francisco .....		26,647,000		
Mint at Carson .....		4,211,400		
				\$35,965,924
Exported .....		28,778,862		
Imported .....		1,706,020		
Net export .....				27,072,842
Melted:				
				8,893,082
As bullion.	Previous to redemption act .....	\$915,346		
	Excluded from redemption (mutilated pieces, etc.) .....	4,113		
			919,459	
Redeemed.	Mint at Philadelphia .....	3,427,369		
	Mint at San Francisco .....	764,263		
	Mint at New Orleans .....	1,871		
	Assay office at New York .....	3,495,533		
	Total redeemed .....	7,689,036		
	Total melted .....			8,608,495
Not accounted for and not presented for redemption; employed in the arts; specimen pieces in the hands of coin collectors, carried out by emigrants, and in miscellaneous deposits of coin remelted at mints, etc .....				
				284,587

The trade-dollars redeemed, 7,689,036 in number, as previously stated, have all been transferred to the mints or to the assay office at New York, and melted into bars ready for coinage.

Of the trade-dollars redeemed, the actual weight, after melting, as well as the legal weight and the loss in weight from abrasion and other causes, is exhibited in the following table:

TRADE-DOLLARS REDEEMED UNDER THE ACT OF MARCH 3, 1887, TRANSFERRED TO THE MINTS OF THE UNITED STATES AND TO THE ASSAY OFFICE AT NEW YORK AND MELTED: THEIR ACTUAL WEIGHT AND LOSS FROM STANDARD COINING RATE BY ABRASION.

Institutions.	Actual weight, standard ounces.	Legal weight, standard ounces.	Loss in weight, standard ounces.	Nominal value of trade-dollars transferred.
Mint at Philadelphia .....	2,982,164.00	2,998,947.88	16,783.88	\$3,427,369.00
Mint at San Francisco .....	665,020.20	668,730.12	3,709.92	764,263.00
Mint at New Orleans .....	1,626.90	1,637.12	10.22	1,871.00
Assay office at New York .....	3,038,879.61	3,058,591.38	19,711.77	3,495,533.00
Total .....	6,687,690.71	6,727,906.50	40,215.79	7,689,036.00

It will be seen that the loss was 40,215.79 standard ounces of silver, equivalent to 45,961 trade-dollars, an average abrasion of about six-tenths of 1 per cent., or about  $2\frac{1}{2}$  grains per piece.

If all of the trade-dollars redeemed be coined into subsidiary silver coins of the United States, as at present, in order to meet the current demand for dimes, the seignorage to the Government on such coinage will be, exclusive of operative wastage, \$631,574.50. If coined into standard silver dollars the seignorage would have been \$93,004.10.

#### MINOR COINAGE.

##### HISTORY.

The token coins of the United States prior to 1857 consisted of the 1-cent and half-cent copper pieces originally authorized by the act establishing a mint and regulating the coins of the United States, approved April 2, 1792.

The weight of these coins was fixed by the act at 11 pennyweights, or 264 grains for the 1-cent piece, and  $5\frac{1}{2}$  pennyweights, or 132 grains for the half-cent.

The weight was reduced, by an act approved January 14, 1793, to 208 grains for the 1-cent piece, and to 104 grains for the half-cent.

The weight was again reduced by proclamation of the President of the United States, dated January 26, 1796, under authority conferred upon him by the eighth section of an act approved March 3, 1795, to 168 grains for the 1-cent piece, and to 84 grains for the half-cent piece at which rates these pieces were coined until their coinage was discontinued by the act of February 21, 1857.

The acts authorizing the coinage of the copper cents and half-cents did not specify that they should be a legal tender for any given amount.

An act to provide for a copper coinage, approved May 8, 1792, authorized the Director of the Mint, with the approbation of the President of the United States, to contract for the purchase of a quantity of copper not to exceed 150 tons, and to cause the copper to be coined at the mint into cents and half-cents. The second section of this act provided as follows:

After the expiration of six calendar months from the time when there shall have been paid into the Treasury by the said Director in cents and half-cents a sum not less than \$50,000, which time shall forthwith be announced by the Treasurer in at least two gazettes or newspapers published at the seat of Government of the United States for the time being, no copper coins or pieces whatsoever, except the said cents and half-cents, shall pass current as money, or shall be paid or offered to be paid or received in payment for any debt, demand, claim, matter or thing whatsoever, and all copper coins or pieces, except the said cents and half-cents, which shall be paid or offered to be paid or received in payment contrary to the prohibition aforesaid shall be forfeited, and every person by whom any of them shall have been so paid or offered to be paid or received in payment shall also forfeit the sum of \$10, and the said forfeiture and penalty shall and may be recovered with cost of suit for the benefit of any person or persons by whom information of the incurring thereof shall have been given.

From this it would appear that these coins would be a legal tender for any sum.

The ninth section of an act approved March 3, 1795, provided for the distribution of the copper coins as follows:

That it shall be the duty of the Treasurer of the United States, from time to time, as often as he shall receive copper cents and half-cents from the treasurer of the mint, to send them to the bank or branch banks of the United States in each of the States where such bank is established, and where there is no bank established then to the collector in the principal town in such State (in proportion to the number of inhabitants of such State) to be by said bank or collector paid out to the citizens of the



State for cash in sums of not less than \$10 value, and that the same be done at the risk and expense of the United States under such regulations as shall be prescribed by the Treasury Department.

By an act of Congress approved February 21, 1857, the coinage of the copper cent and half-cent was discontinued; and the coinage of a 1-cent piece, of the weight of 72 grains, to consist of 88 per cent. of copper and 12 per cent. of nickel, authorized. This coin was to be paid out at the mint in exchange for previous issues of copper coins, and it was made lawful to transmit parcels of the new coin to the assistant treasurers, depositaries, and other officers of the Government, under general regulations proposed by the Director of the Mint and approved by the Secretary of the Treasury, for exchange, as aforesaid.

This act provided that the pieces commonly known as the quarter, eighth, and sixteenth of the Spanish pillar-dollar, and of the Mexican dollar, should be received at the Treasury of the United States, at its several offices, and at the several post-offices and land-offices, at the valuation following: The fourth of a dollar, or piece of two reals, at 20 cents; the eighth of a dollar, or piece of one real, at 10 cents; and the sixteenth of a dollar, or piece of a half-real, at 5 cents. By this act it was also made lawful for two years from its passage, to pay out at the mint the cents authorized for fractional parts of the Spanish pillar and Mexican dollars, at their nominal values of 25,  $12\frac{1}{2}$ , and  $6\frac{1}{4}$  cents.

The coinage of the 1-cent piece authorized by the act of February 21, 1857, was discontinued by an act approved April 22, 1864, authorizing the coinage of a 1-cent piece of the weight of 48 grains, and a 2-cent piece of the weight of 96 grains, composed of 95 per cent. of copper and 5 per cent. of tin and zinc. These coins were to be a legal tender in sums of 10 and 20 cents respectively, and were to be paid out in exchange for lawful coins of the United States (except cents and half-cents issued under former acts of Congress), by the Treasury of the United States and by other depositories, as the Secretary of the Treasury might designate, under general regulations prescribed by the Director of the Mint and approved by the Secretary of the Treasury, the expense of the exchange and distribution to be paid out of the profits on the coinage. The coinage of the 2-cent piece was discontinued by the Coinage Act of 1873.

The coinage of the *silver* 3-cent piece was first authorized by the eleventh section of the act of Congress approved March 3, 1851. The weight of this piece was fixed at  $12\frac{3}{8}$  grains, to be composed of three-fourths silver and one-fourth copper. This coin was made a legal tender in payment of debts in sums of 30 cents or under. The object of the coinage of this piece seems to have been to make a coin to correspond in denomination with the 3-cent postage-stamp, first authorized by the act above mentioned.

The weight of this piece was reduced by an act approved March 3, 1853, to 11.52 grains and the fineness increased to .900. The object of this change was evidently to make the fineness of the 3-cent piece correspond, and its weight proportional, to the other subsidiary silver coins, as authorized by the act of February 21, 1853.

The coinage of the *silver* 5 and 3-cent pieces was discontinued by the act of February 12, 1873. Large amounts of these coins have in the last few years been transferred to the mint and recoined into other denominations, principally dimes.

Owing to the suspension of specie payments in the United States from 1862 to 1876, and the premium on metallic money during this period, the value of the silver contained in all subsidiary coins of the United

States was greater than their nominal value. Hence an exportation of silver coins of the United States, to replace which fractional notes were issued by the Treasury of denominations the same as of coins previously issued.

An act was passed March 3, 1865, providing for the coinage of a 3-cent piece of the weight of 30 grains, composed of 75 per cent. of copper and 25 per cent. of nickel. This act provided that no fractional notes of less than 5 cents should be issued thereafter, and made the 3-cent nickel piece a legal tender for 60 cents, and it was to be paid out in exchange for lawful money of the United States (except cents, half-cents or 2-cent pieces issued under former acts of Congress) in suitable sums by the treasurer of the mint and by such other depositories as might be designated under general regulations approved by the Secretary of the Treasury, and under like regulations in exchange for any lawful currency of the United States, the expense of such exchange, distribution, and transmission to be paid out of the profits.

The sixth section of this act provided that the 1 and 2-cent coins of the United States should not be a legal tender for any payment exceeding 4 cents in amount, thus repealing the provision making these pieces legal tender in sums of 10 and 20 cents, respectively.

On May 16, 1866, an act was approved to authorize the coinage of the 5-cent piece of the weight of 77.16 grains, composed of 75 per cent. of copper and 25 per cent. of nickel. This coin was made a legal tender for \$1, and was to be paid out in exchange for lawful currency of the United States (except cents and half-cents or 2-cent pieces issued under former acts) in suitable sums by the mint and depositories designated "under general regulations approved by the Secretary of the Treasury," the expenses incidental to such exchange, distribution, and transmission to be paid out of the profits on coinage. The further issue of fractional notes of a less denomination than 10 cents was forbidden by this act.

This coin was to be redeemed by the Treasurer and the several assistant treasurers of the United States in national currency, under rules and regulations prescribed by the Secretary of the Treasury, when presented in sums of not less than \$100, and accordingly instructions were issued under date of October 28, 1869, for the redemption of 5-cent nickels.

No provision seems to have been made previous to the passage of this act for the redemption of any of the minor coins. An act was passed March 3, 1871, authorizing the redemption of the copper and token coins previously issued when presented in sums of not less than \$20. A circular issued by the Secretary of the Treasury April 10, 1871, notified holders of all minor coins that these would be redeemed under the provisions of the act by the mint at Philadelphia.

Section 16 of the act of February 12, 1873, provided that minor coins should be redeemed by the Treasurer of the United States and by the assistant treasurers when presented in sums of \$20 or any multiple thereof, and also authorized the Secretary of the Treasury, when the amount presented for redemption showed a redundancy, to intermit the coinage.

On the 24th March, 1873, a circular was issued under this section by the Secretary announcing that minor coins would be redeemed upon being forwarded to the Treasurer or any assistant treasurer of the United States, or to the mint at Philadelphia. Under this circular most of the minor coins presented for redemption were sent to the mint, especially from New York, Boston, Philadelphia, and Baltimore.

These coins continued to be redeemed at the mint until February 24, 1881, when a circular was issued discontinuing the mint as a redemption agency and announcing that minor coins for redemption must be presented to the Treasurer or an assistant treasurer of the United States, but that the mint would still continue to receive minor coins of former issues in exchange for current issues, but not otherwise. Between 1871 and 1881, large amounts of minor coins were redeemed by the mint, the uncurrent minor coins used in recoinage, and the current issues fit for circulation reissued.

By recoining the old cents the purchase of a considerable quantity of metal was obviated as well as loss which would have resulted if these coins had been melted and the metal sold.

Prior to the passage of the Coinage Act of 1873 no provision of law existed for the suspension of the minor coinage in case of a redundancy. On several occasions since, when the amount presented for redemption has indicated a redundancy, the coinage has been suspended for a time by order of the Secretary of the Treasury.

The Treasury statement of assets and liabilities on the 28th February, 1885, showed the amount of minor coin in the Treasury to be \$834,078.25, and on the 30th June following to be \$868,465.64.

The last suspension of this coinage took effect on the 16th March, 1885.

All requests for minor coin afterwards received at the mint were returned with the information that application must be made to the Treasurer of the United States or to the nearest assistant treasurer.

#### MINOR COINAGE DURING FISCAL YEAR 1887.

On the 30th June, 1886, the amount of minor coin in the Treasury, as shown by the statement of assets and liabilities, had been reduced to \$377,814. Of this amount over \$160,000 proved to be in 3-cent nickel pieces, for which there was no demand, and over \$60,000 in uncurrent minor coins of former issues. Thus it appears that of the sum of these coins held by the Treasury the value of over \$220,000 was unavailable.

During the year ended June 30, 1886, large orders were constantly received at the mint at Philadelphia for minor coins, all of which were returned, and the applicants informed that the coinage had been intermitted, and that application must be made to the nearest assistant treasurer of the United States.

Resumption of minor coinage having been authorized by the Secretary of the Treasury, it was recommenced in September, 1886.

During the fiscal year ended June 30, 1887, the demand for minor coins was by far the largest in the history of the mint. The mint at Philadelphia, to which this class of coinage is limited by section 3528 of the Revised Statutes, has since been taxed to its utmost capacity to meet the demand from all parts of the United States, including many where minor coins had never before been in general use.

In order to avoid as far as practicable the purchase of new material, and to relieve the Treasury of an accumulation of uncurrent minor coins of former issues, together with pieces unfit for circulation, and nickel 3-cent pieces, the nominal value of \$224,445.07 in these old coins was transferred to the mint at Philadelphia. This material, together with \$3,754.94 worth of old minor coins exchanged for new, was used in the coinage of 1-cent bronze and 5-cent nickel pieces.

In the bill approved August 4, 1886, an appropriation of \$4,000 was made by Congress to pay the loss on the above stated recoinage of uncurrent minor coins in the Treasury.

The value of the several denominations of minor coins transferred by the Treasurer for recoinage, and received in exchange by the superintendent of the mint at Philadelphia, is shown in the accompanying statement:

Denominations.	Transferred from Treasury of United States.	Exchanged by the superintendent of the mint.	Total.
In nickel 1-cent pieces .....	\$15,100.42	\$585.63	\$15,686.05
In bronze 1-cent pieces .....	9,005.49	444.40	9,449.89
In bronze 2-cent pieces .....	25,541.64	1,059.94	26,601.58
In nickel 3-cent pieces .....	160,306.77	239.97	160,546.74
In nickel 5-cent pieces .....	14,490.75	1,425.00	15,915.75
Total .....	224,445.07	3,754.94	228,200.01

The 1-cent and 2-cent bronze pieces were recoinced into 1-cent bronze pieces, and the copper-nickel 1-cent, and the 3-cent, and 5-cent nickel pieces were used in the coinage of new 5-cent nickel pieces.

The amount and cost to the mint of minor coins available for recoinage was ..... \$228,200.01  
 In order to use the 1-cent nickel pieces it was necessary to add new nickel, costing ..... 606.35

Total for recoinage ..... 228,806.36  
 Upon the recoinage of the 1-cent and 2-cent bronze pieces there was a loss of ..... \$2,216.24  
 And on the 1-cent, 3-cent, and 5-cent nickel pieces ..... 728.60  
 2,944.84

Net value of metal for recoinage ..... 225,861.52  
 From which there was manufactured minor coin of the nominal value of ..... 291,050.41

Gain on recoinage ..... 65,188.89

As there was no demand for the 3-cent nickel pieces, as proved by the large accumulation in the Treasury, \$160,306.77, transferred for recoinage, the minor coinage was confined to 1-cent bronze and 5-cent nickel pieces. The demand for 1-cent bronze and 5-cent nickel pieces, at first sudden, has since been urgent and continuous; at times largely beyond the ability of the mint to promptly meet.

In addition to the amount, \$291,050.41, in minor coins manufactured from the coins transferred by the Treasury and received in exchange by the mint, there was manufactured from new material \$652,600.24 of minor coins.

The minor coinage during the fiscal year was composed of the following denominations:

Denomination.	Pieces.	Value.
Bronze 1-cent pieces .....	39,114,754	\$391,147.54
Nickel 5-cent pieces .....	11,047,523	552,376.15
Nickel 3-cent pieces (proof coins) .....	4,232	126.96
Total .....	50,166,509	943,650.65

The Secretary of the Treasury was authorized by the appropriation act of August 4, 1886, also to transfer to the mint at Philadelphia any minor coins of current issues fit for circulation, to be cleaned and re-issued, and an appropriation of \$5,000 was made to pay the expenses of

distribution of the coins after cleaning. The following table shows the values and denominations of coins accordingly transferred to the mint for cleaning and reissue:

Denomination.	Value.
In 1-cent bronze pieces .....	\$43,601.13
In 5-cent nickel pieces .....	63,212.45
Total .....	106,813.58

All of these were cleaned and reissued, at a cost of \$507.50 for labor and \$4,160.17 for transportation, a total expense of \$4,667.67.

During the year old copper 1-cent pieces, of the nominal value of \$5,110.92, including \$84.93 received in exchange, were transferred to the mint and melted, and the old metal sold for \$1,136.83. The loss of \$3,974.09 was reimbursed the Treasurer from the appropriation for loss on recoinage of uncurrent and minor coins.

The accompanying table exhibits the denomination and nominal value of minor coins forwarded to each of the States and Territories during the fiscal year ended June 30, 1887:

State or Territory.	1-cent bronze.	5-cent nickel.	State or Territory.	1-cent bronze.	5-cent nickel.
Alabama .....	\$25.00	\$5,375.00	Missouri .....	\$7,650.00	\$49,490.00
Arkansas .....	20.00	890.00	New York .....	128,125.00	73,870.00
Arizona .....	20.00	.....	North Carolina .....	1,035.00	1,290.00
California .....	1,215.00	11,585.00	New Jersey .....	12,965.00	11,835.00
Colorado .....	105.00	6,090.00	New Hampshire .....	800.00	2,600.00
Connecticut .....	6,230.00	6,010.00	New Mexico .....	.....	400.00
Delaware .....	385.00	950.00	Nebraska .....	2,710.00	14,865.00
District of Columbia .....	200.00	300.00	Ohio .....	29,015.00	34,990.00
Dakota .....	1,590.00	3,640.00	Oregon .....	20.00	3,510.00
Florida .....	190.00	840.00	Pennsylvania .....	25,500.00	45,045.00
Georgia .....	490.00	3,020.00	Rhode Island .....	6,950.00	3,100.00
Indiana .....	10,669.37	18,710.00	South Carolina .....	800.00	2,865.00
Iowa .....	8,330.00	11,970.00	Texas .....	150.00	7,320.00
Illinois .....	51,831.00	68,355.00	Tennessee .....	1,280.00	15,890.00
Idaho .....	.....	80.00	Utah .....	.....	1,320.00
Kentucky .....	1,775.00	12,950.00	Virginia .....	3,080.00	5,540.00
Kansas .....	4,440.00	8,720.00	Vermont .....	1,370.00	200.00
Louisiana .....	400.00	6,510.00	West Virginia .....	1,235.00	2,380.00
Michigan .....	17,840.00	11,786.00	Wisconsin .....	7,230.00	10,755.00
Massachusetts .....	38,815.00	39,210.00	Washington Terri-	.....	.....
Minnesota .....	10,405.00	13,615.00	tory .....	.....	300.00
Maine .....	1,325.00	1,215.00	Wyoming .....	.....	260.00
Mississippi .....	25.00	250.00	Total .....	400,510.37	544,686.00
Montana .....	.....	2,020.00			
Maryland .....	14,270.00	22,070.00			

## RECAPITULATION.

Denomination.	Pieces.	Value.
One-cent pieces .....	40,051,037	\$400,510.37
Five-cent pieces .....	10,893,720	544,686.00
Total .....	50,944,757	945,196.37

From the above table it will be seen that minor coins were shipped from the mint to every State and Territory except Nevada, Alaska, and the Indian Territory.

A large stock of 1-cent blanks, purchased prior to the suspension of the coinage in March, 1885, was soon exhausted, when an additional stock of blanks was procured under contract.

There was on hand at the mint at Philadelphia a quantity of English and German nickel, some 2,000 pounds, which had been purchased in 1884 for the 5-cent nickel coinage. The price paid for this nickel was 84 cents per pound, the lowest rate at which it was offered at that time. This nickel having proved so unmalleable as to delay and impede coinage operations very seriously, it was found expedient to have it cut into blanks, as well as treated, outside the mint. A contract was accordingly made with Mr. Joseph Wharton, of Philadelphia, to convert this nickel into 5-cent blanks within the legal tolerance of 3 grains per piece and of 1 per cent. of pure nickel, at 25 cents per pound for each pound of blanks accepted.

It subsequently became necessary to procure additional planchets for the 5-cent nickel coinage. Proposals were therefore invited by public advertisement. A contract for the same was awarded to the Benedict & Burnham Manufacturing Company, of Waterbury, Conn., for 20,000 pounds at the rate of  $37\frac{3}{16}$  cents per pound.

Every precaution was observed by the mint, before accepting these blanks as delivered to secure their conformity to legal requirements.

Early in December, 1886, orders for minor coins were so far beyond the capacity of the mint to promptly supply that the superintendent was instructed to scale one-half all orders in excess of \$100, and to offer applicants the option of the balance of orders to be supplied as early as practicable, with the alternative of a return of remittances for orders not filled. This was necessary in order to supply impartially, and as early as practicable, applicants from all sections with at least a portion of their requisitions.

There is here for the first time presented a table showing the value of the different denominations of minor coins issued from the mint at Philadelphia since its establishment, the amount melted down, and the amount outstanding.

It is proper to remark that of the minor coins shown in this table as outstanding, many pieces of the older issues have doubtless either left the country or been destroyed by individuals, or otherwise retired from use as coin.

For instance, it will be noticed that of the old copper half-cents issued from the mint, \$39,926.11 in value, none are reported as having been melted, yet it is doubtful whether any considerable number of them are in existence, except as curiosities or in coin-collections. These have not been included in the total minor coins outstanding. So, too, of the older copper coins which have not since been remelted by the mint, 119,014,574 pieces, representing a value of \$1,190,145.74. These are of a kind rarely seen in circulation.

While this statement may not show with accuracy the previous stock of token coins in the country, it is believed that so far as the current issues are concerned—bronze 1-cent piece and nickel 3-cent and 5-cent pieces—it does not fail to exhibit approximately the stock of such coins in circulation.

Section 3587 of the Revised Statutes provides that "the minor coins of the United States shall be a legal tender at their nominal value for any amount not exceeding 25 cents in any one payment." The minor

coins authorized by the act of February 12, 1873, are the 1-cent bronze and the 3 and 5-cent nickel pieces.

STATEMENT SHOWING BY DENOMINATION THE SEVERAL TYPES OF MINOR COINS STRUCK AND REMELTED FROM THE ORGANIZATION OF THE MINT, AND THE AMOUNT OUTSTANDING JUNE 30, 1887.

Denomination.	Coined.	Remelted.	Outstanding June 30, 1887.
Copper cents.....	\$1,562,887.44	\$372,741.70	\$1,190,145.74
Copper half cents.....	*39,926.11		
Copper nickel cents.....	2,007,720.00	735,616.30	1,272,103.70
Bronze cents.....	4,319,275.48	24,517.11	4,294,758.37
Bronze 2-cent pieces.....	912,020.00	292,123.08	619,891.92
Nickel 3-cent pieces.....	903,705.00	175,541.44	728,163.56
Nickel 5-cent pieces.....	8,691,671.75	61,934.00	8,629,737.75
Total.....	18,437,205.78	1,662,478.63	16,734,801.04

\*There is no record of the melting at the mint of any old copper half cents, but it is believed that few, if any, are in circulation.

APPROPRIATIONS AND EXPENDITURES.

The amount specifically appropriated for the support of the mints and assay offices of the United States for the fiscal year 1887 was \$1,146,739.20, including a special appropriation of \$54,639.20 for the renewal of the steam-power plant of the mint at Philadelphia.

Of the above specific appropriation there was expended \$988,399.31.

In addition, there was expended from the general appropriation for the coinage of silver dollars\* the sum of \$201,110.02. Of this sum \$200,189.02 was expended by the mints, and \$921 by this Bureau; the latter for daily quotations by telegraph of the price of silver in London.

For the service of the mints and assay offices, including the cost of the mandatory coinage of the silver dollar, the total expenditure during the fiscal year ended June 30, 1887, was \$1,189,509.33.

The appropriations and expenditures are exhibited in the following table:

APPROPRIATIONS, 1887.

Institutions.	Salaries.	Wages.	Contingent.	Renewal of steam-power plant.	Coinage of standard silver dol- lars, act of February 28, 1873 (in- definite).	Total.
<i>Coinage mints.</i>						
Philadelphia.....	\$41,550.00	\$293,000.00	\$100,000.00	\$54,639.20		\$489,189.20
San Francisco.....	41,900.00	170,000.00	40,000.00			251,900.00
Carson.....	29,550.00	60,000.00	25,000.00			114,550.00
New Orleans.....	31,950.00	74,000.00	35,000.00			140,950.00
<i>Assay offices.</i>						
New York.....	39,250.00	25,000.00	10,000.00			74,250.00
Denver.....	10,950.00	14,000.00	6,000.00			30,950.00
Helena.....	7,700.00	12,000.00	6,000.00			25,700.00
Boisé.....	3,000.00		5,000.00			8,000.00
Charlotte.....	2,750.00		2,000.00			4,750.00
Saint Louis.....	3,500.00		2,000.00			6,500.00
Total.....	212,100.00	648,000.00	232,000.00	54,639.20		1,146,739.20

\* Act of February 28, 1873.

## REPORT ON THE FINANCES.

## EXPENDITURES, 1887.

<i>Coinage mints.</i>						
Philadelphia.....	\$40,665.69	\$292,379.88	\$86,115.47	\$11,464.27	\$147,360.88	\$577,986.19
San Francisco.....	41,856.56	169,079.88	36,426.23		81.84	247,444.51
Carson.....	11,783.62	17,899.00	2,354.14			32,036.76
New Orleans.....	31,841.29	73,997.58	28,310.00		52,746.30	186,895.77
<i>Assay offices.</i>						
New York.....	39,202.45	23,361.00	9,581.12			72,144.57
Denver.....	10,629.34	13,248.66	5,112.81			28,990.81
Helena.....	7,700.00	11,821.25	5,996.70			25,517.95
Boisé.....	3,000.00		4,916.62			7,916.62
Charlotte.....	2,750.00		1,565.85			4,315.85
Saint Louis.....	3,478.18		1,861.12			5,339.30
Total.....	192,907.13	601,787.25	182,240.66	11,464.27	200,189.02	1,188,588.33

Of the amount appropriated for the support of the mints and assay offices during the year there remained unexpended the sum of \$158,339.89, as exhibited in the following table:

Institutions.	Salaries.	Wages.	Contingent expenses.	Renewal of steam-power plant.
<i>Coinage mints.</i>				
Philadelphia.....	\$884.31	\$620.12	\$13,884.53	\$43,174.93
San Francisco.....	43.44	920.12	3,573.77	
Carson.....	17,766.38	42,101.00	22,645.86	
New Orleans.....	108.71	2.42	6,689.40	
<i>Assay offices.</i>				
New York.....	47.55	1,639.00	418.88	
Denver.....	320.66	751.34	887.19	
Helena.....			83.38	
Boisé.....		178.75	3.30	
Charlotte.....			434.15	
Saint Louis.....	21.82		1,138.88	
Total.....	19,192.87	46,212.75	49,759.34	43,174.93

The following comparative table exhibits the expenditures on account of the mint service during the years 1886 and 1887:

Appropriations.	1886.	1887.
Salaries.....	\$189,331.48	\$192,907.13
Wages of workmen.....	593,865.07	601,787.25
Contingent expenses.....	164,183.47	*193,704.93
Standard silver dollar.....	119,976.00	200,189.02
Total.....	1,067,356.02	1,188,588.33

\* Includes \$11,464.27 expended from appropriation for renewal of steam-power plant at Philadelphia.

The expenses of the Bureau of the Mint, consisting of salaries of the Director and the clerical force, expenditures for examination of mints and for annual settlements, for books and incidental expenses, for the collection of the statistics of the production of the precious metals, and for the support of the laboratory in which the monthly coinage of the mints is tested, amounted to \$33,091.97.



The appropriations and expenditures for the above purpose, as well as a comparison with the fiscal year 1886, are exhibited in the following table :

Appropriations.	1886.		1887.	
	Appropriations.	Expenditures.	Appropriations.	Expenditures.
Salaries of officers and clerks.....	\$28,940.00	\$28,500.00	\$28,024.93	\$27,958.27
Examinations of mints, etc.....	2,500.00	2,417.31	2,500.00	1,349.31
Collecting mining statistics.....	4,000.00	2,153.77	4,000.00	2,290.01
Laboratory .....	1,000.00	337.85	1,000.00	999.70
Books, pamphlets, etc .....	1,060.00	998.53	500.00	494.68
Total .....	37,440.00	34,407.46	36,024.93	33,091.97

The appropriations for the support of the mints and assay offices for the current fiscal year (1888) amount to \$1,094,500, against \$1,146,739.20 for the fiscal year 1887.

The appropriations for the fiscal year 1887-'88 are as follows:

Institutions.	Salaries.	Wages of workmen.	Contingent expenses.	Repairs of buildings.	Total.
<i>Coinage mints.</i>					
Philadelphia.....	\$41,550	\$293,000	\$100,000	.....	\$434,550
San Francisco.....	41,900	170,000	40,000	.....	251,900
Carson.....	29,550	60,000	25,000	.....	114,550
New Orleans.....	31,950	74,000	35,000	.....	140,950
<i>Assay offices.</i>					
New York .....	39,250	25,000	10,000	.....	74,250
Denver .....	10,950	14,000	6,000	\$2,000	32,950
Helena .....	7,700	12,000	6,000	.....	25,700
Boisé City .....	3,000	.....	5,000	1,000	9,000
Charlotte.....	2,750	.....	2,000	.....	4,750
Saint Louis.....	3,500	.....	2,400	.....	5,900
Total .....	212,100	648,000	231,400	3,000	1,094,500

#### EARNINGS AND EXPENSES OF THE REFINERIES OF THE COINAGE MINTS AND OF THE ASSAY OFFICE AT NEW YORK.

Under the provision of law (par. 8, chap. 327, vol. 1, Supplement to Revised Statutes) which requires that refining and parting of bullion shall be carried on at the mints of the United States and at the assay office at New York, and that the charges collected from depositors for these operations shall be used to pay the expenses thereof, the refineries of the mints at Philadelphia, San Francisco, Carson, and New Orleans and at the assay office at New York have been in operation during the past year.

The charges collected from depositors during the year for this purpose amounted to \$143,251.32 and the expenditures to \$165,837.02.

The expenses exceeded the receipts by \$22,585.70.

The amount received by the assay office at New York from the sale of blue vitriol and spent acid from its refinery during the fiscal year 1887 amounted to \$12,760.74.

This is properly an earning of the refinery. Prior to the fiscal year 1886 such receipts were used to offset the expenses of the refinery.

As mentioned in my last fiscal report,\* the First Comptroller ruled that the proceeds of the sale of blue vitriol and spent acid from the Government refineries could not be used, as had been the practice, in offsetting the payments for acids, but should be covered into the Treasury as a miscellaneous receipt, as from the sale of old material, under construction of section 3618 Revised Statutes.

Deducting the amount realized from these sales by the assay office at New York, the net expenditures of the refinery were \$153,076.28.

It will be seen that the net expenses exceeded the earnings by \$9,824.96. It is impossible to forecast with accuracy the probable expenses of the year. They depend, as do the receipts, largely on the amount and character of the deposits.

The receipts from these sources, however, since the 1st July, 1876, when the Government refineries were required to be self-supporting, have exceeded the earnings by \$185,965.86, the amount to the credit of the appropriation for parting and refining bullion on the 1st July, 1887.

Under a separate heading, among several measures for which new legislation seems to be required, I have reprinted from Ex. Doc. 96, H. R., Forty-ninth Congress, second session, a proposed amendment of the Revised Statutes (Sup., 1, par. 8, chap. 327), drawn so as to provide for the future crediting of all earnings of refineries against expenditures.

The only alternative from such an amendment is an eventual increase of charges for parting and refining at the several mints and at the assay office at New York. From such an increase would follow an entire change in the well-established practice of the Mint service.

The charges collected at each of the institutions for parting and refining bullion, and the amount expended at each during the fiscal year, as well as the net expenditures, after deducting the amount received for blue vitriol and spent acid sold during the year, are exhibited in the following table :

Institutions.	Charges collected.	Gross expenditures.	Net expenditures.
Mint at Philadelphia .....	\$14,980.20	\$6,611.27	\$6,611.27
Mint at San Francisco.....	51,288.02	58,902.60	58,902.60
Mint at Carson .....	1,270.77	3,682.99	3,682.99
Mint at New Orleans .....	548.53	48.14	48.14
Assay office at New York .....	75,163.80	96,592.02	83,831.28
Total .....	143,251.32	165,837.02	153,076.28

#### EARNINGS AND EXPENDITURES OF THE MINTS AND ASSAY OFFICES.

The usual table, exhibiting in detail the earnings from all sources, and the expenditures and losses of all kinds at the mints and assay offices of the United States during the fiscal year 1887, will be found in the Appendix.

The total earnings amounted to \$8,842,819.70, and the total expenditures and losses of all kinds to \$1,437,432.95. The profits from operations on bullion during the past year amounted to the large sum of \$7,405,386.75.

A large portion of these earnings consisted of seignorage on the manufacture of silver and minor coins.

#### CLASSIFIED STATEMENT OF EXPENDITURES OF THE MINTS AND ASSAY OFFICES OF THE UNITED STATES, 1887.

For the first time there was presented in my fiscal report of last year

\* Vide p. 7.

a statement exhibiting the expenditures of the coinage mints and of the assay office at New York, classified similar to the business of private manufacturing establishments.

The accounts are now so kept in all of the institutions under the control of this Bureau that cost sheets can be prepared showing the amount expended for each class of supplies and for each department of the several institutions.

The following table is a consolidation of the tabular statements of the various institutions. It exhibits the total expenditures for each class of supplies as well as the other expenses of the mint service for the fiscal year 1887:

Articles.	Ordinary.	Refinery.	Total.
Acids.....	\$6,060.13	\$35,011.64	\$41,071.77
Assayer's materials.....	1,834.12	63.18	1,897.30
Belting.....	520.42	15.64	536.06
Charcoal.....	5,560.53	1,317.89	6,878.42
Chemicals.....	3,624.43	295.55	3,919.98
Coal.....	26,541.37	5,198.28	31,739.65
Coke.....	3,741.66		3,741.66
Copper.....	25,125.82	8,524.80	33,650.62
Crucibles.....	8,956.29	3,456.90	12,413.19
Dry goods.....	3,121.94	428.98	3,550.92
Fluxes.....	3,647.86	1,298.76	4,946.62
Freight and drayage.....	1,350.22	714.14	2,064.36
Gas.....	9,475.75	716.19	10,191.94
Gloves and gauntlets.....	6,875.52	721.21	7,596.73
Hardware.....	2,079.10	466.00	2,545.10
Ice.....	2,228.62	48.23	2,276.85
Iron and steel.....	552.68	101.99	654.67
Labor and repairs.....	15,274.82	6,457.66	21,732.48
Loss on sale of sweeps.....	786.42	537.37	1,323.79
Lumber.....	3,250.60	938.59	4,189.19
Machinery and appliances.....	7,027.40	199.38	7,226.78
Metal work and castings.....	2,911.35	2,204.65	5,176.00
Oils.....	2,349.30	45.00	2,394.30
Salt.....	22.75	232.30	255.05
Sewing.....	2,391.44	151.70	2,543.14
Stationery, printing, and binding.....	2,300.14		2,300.14
Sundries.....	13,122.86	1,217.71	14,340.57
Telegraphing.....	779.78		779.78
Washing.....	940.03		940.03
Barrels and cooperage.....		865.50	865.50
Water.....	1,605.03	410.10	2,015.13
Wood.....	11,732.84	628.23	12,361.07
Zinc.....	2.00	3,476.27	3,478.27
Advertising.....	166.10		166.10
Boring artesian well, New York.....	3,130.04		3,130.04
Adjusting weights.....	158.50		158.50
Lead.....		6,434.01	6,434.01
Electric lighting.....	1,182.84		1,182.84
Cutting silver disks.....	59.85		59.85
Renoval of steam-power plant, Philadelphia.....	11,464.27		11,464.27
Manufacture of 5-cent nickel blanks.....	19,498.50		19,498.50
Salaries.....	192,907.13		192,907.13
Wages of workmen.....	784,227.88	83,599.17	867,827.05
	1,188,588.33	165,837.02	1,354,425.35

## OPERATIONS.

Bars manufactured:	
Gold.....	\$58,188,953.66
Silver.....	6,481,611.25
Total.....	64,670,564.91
Coinage executed:	
Gold.....	\$22,393,279.00
Silver.....	34,366,483.75
Minor.....	943,650.65
Total.....	57,703,413.40
Refinery earnings.....	\$443,258.52

## SUMMARY OF THE OPERATIONS OF THE MINTS AND ASSAY OFFICES.

The value of the gold and silver deposited at the mints and assay offices of the United States during the fiscal year 1887 was \$131,635,811.34. This aggregate, however, but partially measures the successive operations upon the bullion represented by this value. For example, it may be interesting to show the operations by the melters and refiners of the four mints and of the assay office at New York, as measured by the value of the bullion successively operated upon. These may be stated as follows:

Metal.	Standard ounces.	Value.
Gold.....	5,919,878	\$110,137,265
Silver.....	70,764,794	82,344,487
Total value.....		192,481,752

The operations of the coinage departments of the mints were as follows:

Metal.	Standard ounces.	Value.
Gold.....	2,632,005	\$48,967,440
Silver.....	61,896,692	72,025,241
Total value.....		120,992,681

The additional sum of \$3,828,635 represents the unparted product of minor assay offices, and by them originally melted and assayed. The total value of the gold thus successively operated upon by the five institutions mentioned and by the minor assay offices was \$317,303,068, the measure of the combined operations on bullion of all the institutions of the mint service.

The wastage of the precious metals in the operations of both the coiners' and the melter-and-refiners' departments during the year was \$13,473.26. All of this operative wastage was in silver, no wastage of gold having been incurred at any of the coinage mints or at the assay office at New York during the fiscal year. That is, the difference between the amount of gold bullion charged and credited was in favor of the operative officers. Such differences arise from several legitimate sources, especially from the recovery of minute proportions of gold from silver deposits, and of silver from gold deposits, of a value insufficient

in individual deposits to pay the charges for parting. When ultimately recovered the value of such bullion inures to the benefit of the melter-and-refiner's account to offset unavoidable wastage.

Of the silver wastage, all, except \$229.43 incurred at the mint at San Francisco, was at the mint at New Orleans, and principally in the melter-and-refiner's department.

In addition to the operative wastage of silver there was a loss of \$16,287.30 arising from the sale of sweeps, being the difference between the assay value of the gold and silver contained in them and the amount realized from their sale, and a loss at the assay office at New York from the sale of plumbic melts, amounting to \$247.52. The total loss on the operations of gold and silver bullion at the mints and assay offices of the United States for the year was \$30,008.08.

Against this loss there was, on the other hand, an operative gain of bullion much larger than the entire loss. Surplus bullion was returned by the operative officers of the coinage mints and of the assay office at New York aggregating \$52,785.45. Gold and silver in granules and sweepings were recovered from the deposit melting rooms of the value of \$9,020.66. There was also an operative gain arising from differences in assays and charges, in favor of the small assay offices, on bullion shipped to a mint for coinage during the year, amounting to \$4,391.41. The total gains from operations on bullion (not including, of course, any of the seignorage or proceeds of sales of old material or by-products or charges collected) was \$66,197.52, against a total operative loss of \$30,008.08, a gain to the Government in melting, refining, and coining of bullion, aggregating over \$300,000,000 as stated above, of \$36,189.44.

At the close of the fiscal year the bullion and coin in the mints at Philadelphia, San Francisco, and New Orleans, and in the assay office at New York, were weighed by representatives of the Treasury Department and of the superintendents. The superintendents were found to have in their possession the values for which they were held. No illegitimate loss, so far as this Bureau is aware, has been incurred in the mint service during the year.

The work of the individual mints and assay offices during the year will now be briefly presented:

#### MINT AT PHILADELPHIA.

Impairment of the foundation of the old engine, together with the requirement of increased power, at the mint at Philadelphia led to a special appropriation by act of Congress of \$54,639.20, in accordance with specifications for the renewal of the steam motive plant and for its transfer from the center of the building to space newly provided near the northern outer wall. The work, undertaken in July, was by extraordinary exertions on the part of all engaged completed early in September, with an interruption of less than two months to the regular course of complete operations. Two new 150-horse-power duplex steam-engines and one of 50-horse-power have been erected in the north basement, along with three tubular boilers, coal bunkers, etc.

By this important improvement in plant valuable space has been secured in the center basement and ground floor for vaults and other necessities.

The number of assays made during the year was some 66,000, of which 48,000 were silver and 18,000 gold,

6209 FI 87—8

The melter and refiner of the mint operated upon a larger quantity of bullion than in any previous year in the history of the institution. The operations by this officer may be stated as follows:

	<i>Ounces.</i>
Gold deposits .....	409,326
Silver deposits .....	44,239,881
Parted and refined .....	721,765

As this bullion is handled more than sixteen times in the processes of melting and preparation for coinage or for manufacture of fine bars, the combined operations represent a single handling of nearly 25,000 tons. The operations of the coiner's department may be stated as follows:

	<i>Ounces.</i>
Gold .....	13,574
Silver .....	42,924,485
Minor coinage metal .....	5,588,897
Total .....	48,526,956

The total coinage was \$23,277,600.80, the total number of pieces being 81,532,391.

While it is justifiable that equitable allowances for the benefit of the melter and refiner's account should be made by the weigh-clerk to cover sandage and moisture in deliveries or deposits of silver bullion, such allowances should not be suffered to exceed the probable operative loss from the presence of mechanical impurities alone. The anomalous return of a surplus by this officer from his operations on silver during the past year points to the practice of undue allowances of the kind referred to, or of wide allowances for operative losses of all kinds, and therefore should not be taken as a proper precedent for future practice, or as an example for other mints.

The equally anomalous circumstance of a surplus also on the part of the coiner in his operations on silver at the same institution is less easily explained. No satisfactory explanation having been found, it must be assumed that one, or more than one, of the following contingencies has happened, namely:

- I. That the clean-up, a very thorough one, at the annual settlement covered residues of a previous period.
- II. That greasy clippings were credited above clear weight.
- III. That some mistake has occurred by way of credit for a heavier delivery of clippings than some one receipted for—thus to the detriment of the melter's account.

I have taken occasion, under a separate heading, to briefly state the serious disadvantage under which this mint labors, in common with the other mints of the Republic, from its continued equipment with machinery and appliances introduced nearly half a century ago, and far behind the state of advancement which has since been reached in the mechanism of many foreign mints and private metal works in the United States. From the pressure under which this mint is constantly impelled in order to meet the requirements of the bulk of the silver dollar, and the whole of the minor, coinage, the inefficiency of its mechanical equipment can not be counteracted, as in some degree at the collateral institutions, by extra manipulations or deliberateness of work.

In co-operation with the superintendent and with the chief of the mechanical department of the mint, I have undertaken to prepare the way for such improvements as now seem to be imperative. But it can not be expected that improvements of considerable magnitude can be made without the aid of Congress by special appropriations to defray

the cost. Suffice it on the present occasion to remark that in case expedients seem advisable beyond the scope of this Bureau, or of ordinary appropriations for the support of the mints, such expedients will be commended to the attention of the Department in order that they may be laid before Congress for suitable action.

Resort is still had to temporary and inefficient expedients for want of vault facilities, to which attention was called in my last two fiscal reports. There are still at the post-office building 21,750,000 silver dollars in charge of the superintendent of the mint, and for which this officer is held responsible. Compartment vaults in which the coin could be sealed up are very much needed at this mint, as well as at the other mints of the United States. Such a provision would avoid the constant re-weighing of the immense amount of coin now stored at these institutions. It would especially do away with the important loss which necessarily results from handling the precious metals in such large quantities on occasions like the annual settlements or changes in fiduciary officers. Coin once weighed and sealed up in compartments would not be disturbed except when needed by some other institution, or by some other branch of the Treasury Department. Experiment has shown that the loss by abrasion in handling \$1,000,000 in gold coin is \$5 for every handling, even when the utmost care is exercised, and that the loss is absolute. It is estimated that at the annual settlement and other counts the weighing of the bullion and coin requires no less than eight handlings.

The expenditures during the year for the different classes of supplies and in the different departments are exhibited in the following table:

Items.	General department.		Assayer's department.	Coiner's department.	Melter and refiner's department.		Engraver's department.
	Proper.	Mechanical.			Proper.	Refinery.	
Acids.....			\$237.92		\$3,799.53	\$3,111.83	
Belting.....	\$284.05	\$14.40		\$16.62			
Charcoal.....	22.17	47.01	109.43	26.72	1,556.30		\$111.79
Chemicals.....	64.37	11.82	171.99	443.04	42.00	84.21	15.15
Coal.....	13,132.76	27.50	154.00		3,018.00		
Copper.....					13,585.00		
Crucibles, covers, stirrers, and dippers.			36.75		3,675.97		
Dry goods.....	104.01		3.67	987.25	62.45	41.59	
Fluxes.....					3,560.91		
Freight and drayage.	252.12						
Gas.....	3,981.33	117.45					
Gloves and gauntlets.	320.97		6.54	3,800.93	1,711.96	90.00	
Hardware.....	68.57	434.26	17.86	268.42	161.55		6.35
Ice.....	579.52				33.93		
Iron and steel.....	3.98	152.24	2.95	46.74			
Labor and repairs....	2,284.10	28.05	43.50	594.60	467.57		
Loss on sale of sweeps.	786.42					514.73	
Lumber.....		1,723.67		333.75	52.32		
Machinery and appliances.....	2,426.00		125.00	66.49			
Metal work and castings.....	343.63	735.88	15.95	274.69	293.92		33.54

## REPORT ON THE FINANCES.

Items.	General department.		Assayer's department.	Coiner's department.	Melter-and-refiner's department.		Engraver's department.
	Proper.	Mechanical.			Proper.	Refinery.	
Oils.....	\$425. 62	\$18. 24	\$76	\$383. 71	\$217. 37		\$1. 42
Salt.....			65			\$116. 91	
Stationery, printing and binding.....	755. 08		4. 88	3. 15	10. 31		
Sundries.....	4, 176. 17	674. 80	30. 55	765. 52	566. 13		17. 44
Telegraphing.....	28. 87						
Washing.....	42. 67						
Wood.....	156. 87			5, 239. 39	18. 93	17. 43	
Zinc.....						935. 57	
Steam-power plant...	11, 464. 27						
Manufacture of 5-cent nickel blanks.....					19, 498. 50		
Total.....	41, 703. 49	3, 985. 32	962. 40	13, 251. 02	52, 332. 65	4, 912. 27	185. 69
Salaries.....	23, 258. 13		4, 934. 76	4, 472. 80	5, 000. 00		3, 000. 00
Wages of workmen...	111, 949. 40	12, 840. 11	9, 385. 86	212, 743. 32	69, 834. 70	1, 699. 00	8, 146. 54
Aggregate.....	176, 911. 02	16, 825. 43	15, 283. 02	230, 467. 14	127, 167. 35	6, 611. 27	11, 332. 23

## SUMMARY.

Items.	Amount.	Items.	Amount.
Acids.....	\$7, 149. 28	Machinery and appliances.....	\$2, 617. 49
Belting.....	315. 07	Metal work and castings.....	1, 697. 61
Charcoal.....	1, 873. 42	Oil.....	1, 047. 12
Chemicals.....	832. 58	Salt.....	117. 56
Coal.....	16, 832. 20	Stationery, printing and binding..	773. 42
Copper.....	13, 585. 00	Sundries.....	6, 230. 61
Crucibles, covers, stirrers, and dippers.....	3, 712. 72	Telegraphing.....	28. 87
Dry goods.....	1, 198. 97	Washing.....	42. 67
Fluxes.....	3, 560. 91	Wood.....	5, 432. 62
Freight and drayage.....	252. 12	Zinc.....	935. 57
Gas.....	4, 098. 78	Steam-power plant.....	11, 464. 27
Gloves and gauntlets.....	5, 930. 40	Manufacture of 5-cent nickel blanks.....	19, 498. 50
Hardware.....	957. 01	Total.....	117, 332. 84
Ice.....	613. 45	Salaries.....	40, 665. 69
Iron and steel.....	205. 91	Wages of workmen.....	426, 598. 93
Labor and repairs.....	3, 417. 82	Aggregate.....	584, 597. 46
Loss on sale of sweeps.....	1, 301. 15		
Lumber.....	2, 109. 74		

## MINT AT SAN FRANCISCO.

The gold deposits at the mint at San Francisco during the fiscal year 1887 numbered 8,365, and contained 1,217,356 standard ounces of gold and 59,678 standard ounces of silver. The silver deposits for fine bars numbered 522 and contained 621,449 standard ounces of silver and 11,537 standard ounces of gold. The deliveries of silver on purchases numbered 472 and contained 520,419 standard ounces of silver and 9,258 standard ounces of gold. The total deposits were;



Metal.	Standard ounces.
Gold .....	1, 238, 229
Silver .....	1, 726, 195
Total .....	2, 964, 424

The total number of assays made during the year was 12,460.

During the year four Reichhelm gas cupel furnaces were placed in the assay department, three of which are in constant use. The amount of gas consumed is about 1,000 feet a day. The work is neatly and economically conducted with satisfactory results.

The melter and refiner operated on 2,569,593 standard ounces of gold and 2,738,918 of silver. He made 958 melts of gold ingots and 1,086 melts of silver ingots. Two of the gold melts only were condemned during the year, and none of the silver melts. He also manufactured 458 fine silver bars, and one unparted bar. He returned in settlement a surplus of 1,335.101 standard ounces of gold, and had a wastage in silver of 111.61 standard ounces.

The number of ounces of gold and silver operated upon by the refinery of this mint during the year was 1,506,217.

The coiner operated upon 2,618,431 standard ounces of gold during the year, and struck \$7,560,000 in eagles and \$14,800,000 in half eagles, with a percentage of 47.5 of good coin produced from ingots operated upon. There was an excess in his gold operations of 19.54 standard ounces. The coiner operated upon 1,358,630 standard ounces of silver, and delivered to the superintendent \$766,000 in silver dollars and \$89,812.60 in dimes, having obtained a percentage of 53.9 of good coin from metal handled. He had a wastage of 140.80 standard ounces of silver. The business of the melting department of the mint at San Francisco for a series of years is exhibited in the following table:

Fiscal year.	Gold ingot melts.		Silver ingot melts.	
	Number made.	Number condemned.	Number made.	Number condemned.
1874.....	813	5	2, 648	10
1875.....	925	13	4, 378	15
1876.....	942	6	9, 454	11
1877.....	1, 141	3	13, 210	8
1878.....	1, 393	19	13, 610	14
1879.....	981	4	12, 789	14
1880.....	931	3	8, 104	14
1881.....	1, 033	8	12, 617	38
1882.....	958	8	10, 719	20
1883.....	901	5	7, 509	12
1884.....	767	4	5, 539	1
1885.....	677	1	2, 619	0
1886.....	935	0	.....	.....
1887.....	958	2	1, 086	0
Total .....	13, 355	.....	104, 282	157
Condemned, per cent .....	.....	.61%	.....	.1%

The operations of the coiner's department for a series of years will appear from the following table :

## GOLD COINAGE.

Fiscal years.	Amount.	Per cent.	Legal allow- ance.	Actual waste.	Gain.	Per cent. of allow- ance.
1882-'83 .....	\$26,760,000	54.7	<i>Standard ozs.</i> 1,325.685	<i>Stand.ozs.</i> 134.715	<i>Stand.ozs.</i> .....	10.1
1883-'84 .....	23,543,500	51.3	1,164.590	120.300	.....	10.3
1884-'85 .....	20,857,500	54.7	1,041.746	70.337	.....	6.75
1885-'86 .....	27,080,000	52	1,424.406	47.018	.....	3.3
1886-'87 .....	22,360,000	47.5	1,309.205	.....	19.540	.....
Total and mean..	120,601,000	.....	6,265.632	372.370	19.540	7.5

## SILVER COINAGE.

1882-'83 .....	7,350,000.00	51.5	12,628.130	638.76	.....	5.00
1883-'84 .....	5,850,000.00	52.5	9,779.060	618.13	.....	6.30
1884-'85 .....	2,908,799.70	53.3	4,703.610	192.00	.....	4.08
1885-'86 .....	49,066.20	52.8	50.154	.58	.....	1.15
1886-'87 .....	855,812.60	53.9	1,355.090	140.80	.....	10.39
Total and mean..	17,013,678.50	.....	28,516.044	1,590.27	.....	5.38

## Actual loss for five years last past:

Gold .....	\$6,925.70
Silver .....	1,432.98

## Deduct for gain:

Gold .....	8,358.68
Silver .....	363.53

Net loss .....	7,995.15
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## Deduct for metal recovered from old carpets :

Gold .....	\$1,705.60
Silver .....	13.80
	1,719.40

Actual loss for the five years last past, coin value .....	6,275.75
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Legal allowance on gold operated on .....	\$111,901.85
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Legal allowance on silver operated on .....	26,077.58
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Total legal allowance for five years past .....	137,979.43
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The value of foreign coins deposited at the mint at San Francisco during the past fiscal year is exhibited in the following table :

## STATEMENT OF APPROXIMATE VALUE OF FOREIGN GOLD COINS DEPOSITED AND MELTED AT MINT AT SAN FRANCISCO, DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

Country.	Value.
England (sovereigns) .....	\$1,105,658.59
Do .....	8,813.77
Japan .....	133,112.45
Mexico .....	78,083.41
Mixed foreign coins .....	43,505.85
Central America .....	301.15
Spain .....	1,379.68
South America .....	109.69
Mixed foreign and mutilated United States coins .....	1,121.55
Total .....	1,377,086.14

Frequently foreign coin represents only a part of a deposit, therefore the value of a deposit is not necessarily the actual value of the coin. A record is kept of the denominations, but not of the values.

The expenditure of the mint at San Francisco during the year for the different classes of supplies and in the different departments is exhibited in the following table:

Items.	General department.		Assayer's department.	Coiner's department.	Melter and refiner's department.	
	Proper.	Mechanical.			Proper.	Refinery.
Acids.....			\$1,134.00	\$54.90		\$16,778.40
Assayer's materials.....			220.33			
Belting.....	\$86.27	\$4.50		22.80		
Charcoal.....			548.20		\$805.43	81.72
Chemicals.....	558.65	2.50	160.36	473.82	1,137.66	211.34
Coal.....	7,307.61					487.98
Coke.....					1,200.20	
Copper.....	1.28		20		3,099.59	1,937.50
Crucibles, covers, stirrers, and dippers.....			38.50		1,798.39	
Dry goods.....	506.29		9.40	66.17	181.52	157.29
Freight and drayage.....	372.22					
Gas.....	1,439.60					
Gloves and gauntlets.....	77.00		23.87	214.00	75.75	347.62
Hardware.....	105.48	135.26	25.65	4.85	27.75	98.61
Ice.....	624.69					
Iron and steel.....		83.84	2.25	10.28	21.98	96.74
Labor and repairs.....	3,181.95	505.49	528.99	450.34	172.30	6,006.33
Lumber.....	25.00	882.72	6.50			198.17
Machinery and appliances.....	32.73	32.00	141.08	11.90	6.65	75.00
Metal work and castings.....	78.79	7.50	48.21	57.07	149.27	258.51
Oils.....	244.58			23.60	73.29	9.00
Salt.....			3.00			115.39
Sewing.....	370.55			5.60	1,789.84	
Stationery, printing, and binding.....	732.29		4.25	4.00		
Sundries.....	388.29				338.75	54.00
Telegraphing.....	261.46					
Washing.....	596.91					
Water.....	283.33					
Wood.....	627.30			1,609.74		321.30
Zinc.....						2,540.70
Total.....	17,992.27	1,653.81	2,894.79	3,011.07	10,878.37	29,775.60
Salaries.....	25,124.66		6,600.00	5,000.00	5,131.90	
Wages of workmen.....	62,105.50		20,306.50	65,118.64	21,627.00	29,127.00
Aggregate.....	105,222.43	1,653.81	29,801.29	73,129.71	37,637.27	58,902.60

## SUMMARY.

Items.	Amount.	Items.	Amount.
Acids.....	\$17,967.30	Lumber.....	\$1,112.39
Assayer's materials.....	220.33	Machinery and appliances.....	299.36
Belting.....	113.57	Metal work and castings.....	599.35
Charcoal.....	1,435.35	Oils.....	352.47
Chemicals.....	2,544.33	Salt.....	118.39
Coal.....	7,795.59	Sewing.....	2,165.99
Coke.....	1,200.20	Stationery, printing, and binding..	740.54
Copper.....	5,038.57	Sundries.....	781.04
Crucibles, covers, stirrers, and dippers.....	1,836.89	Telegraphing.....	261.46
Dry goods.....	920.67	Washing.....	596.91
Freight and drayage.....	372.22	Water.....	283.33
Gas.....	1,439.60	Wood.....	2,558.34
Gloves and gauntlets.....	738.24	Zinc.....	2,540.70
Hardware.....	487.60	Total.....	66,205.91
Ice.....	624.09	Salaries.....	41,856.56
Iron and steel.....	215.09	Wages of workmen.....	198,284.64
Labor and repairs.....	10,845.40	Aggregate.....	306,347.11

## MINT AT NEW ORLEANS.

The operations of the mint at New Orleans during the last fiscal year have been limited to the manufacture of silver dollars. The monthly allotments of coinage at this mint were increased to 1,000,000 silver dollars in November, 1886. A monthly coinage of this number of pieces was maintained throughout the fiscal year except in the short month of February last. The machinery and furnaces of the mint have been thoroughly overhauled, and, from the appropriation of \$15,000 by Congress, the mint building has been thoroughly repaired, under the auspices of the Supervising Architect.

The value of the gold and silver deposited at this institution during the year was \$11,807,853, of which \$11,701,304 was silver, chiefly fine silver bars purchased for coinage into silver dollars.

The operations of the assayer's department consisted of 25,472 assays, of which 918 were gold, 22,418 silver, and 2,136 silver ingot assays. This department has been newly furnished with improved apparatus.

The melter and refiner operated during the year upon 30,784 standard ounces of gold bullion, which he converted into ingots, and delivered in settlement an excess of 7.735 ounces of standard gold. The same officer operated upon 18,901,167 standard ounces of silver with a wastage of 13,709.49 ounces, over 48 per cent. of his legal allowance. The silver wastage of the melter and refiner was larger than has been incurred for many years at any of the mints. This wastage has been in part attributed by the assayer of this Bureau, who, as its representative, superintended the annual settlement at New Orleans, to the closeness of weighing deposits by the superintendent's weigh clerk, and to the fact that the deductions, allowed the melter and refiner for mechanical impurities and for unavoidable loss in removing base metals, have been practically insignificant.

In another part of this report will be found a statement showing the number of ingot melts condemned at the several institutions for a series of years.

The coiner operated upon 17,613,577 standard ounces of silver ingots during the year, the coinage executed consisting of 11,210,000 silver dollars, against 9,300,000 in the preceding year. This is the largest coinage ever executed in this mint. The percentage of good coin was 56, with a wastage of 1,375.97 standard ounces.

The expenditure of the mint at New Orleans during the year for the different classes of supplies and in the different departments is exhibited in the following table:

Items.	General department.		Assayer's department.	Coiner's department.	Melter and refiner's department.	
	Proper.	Mechanical.			Proper.	Refinery.
Acids .....			\$97. 22	\$3. 22	\$299. 38	
Assayer's materials .....			528. 58			
Belting .....		\$39. 81		17. 08		
Charcoal .....					613. 20	
Chemicals .....				104. 37	85. 57	
Coal .....	\$2, 519. 40					
Coke .....					1, 533. 35	
Copper .....					8, 435. 00	
Crucibles, covers, stirrers, and dippers .....					2, 118. 44	
Dry goods .....	63. 76		10. 82	727. 80	247. 50	
Freight and drayage .....	120. 06				1. 91	
Gas .....	1, 984. 83					
Gloves and gauntlets .....				630. 00		
Hardware .....	293. 93					
Ice .....	296. 50		37. 87	296. 50	191. 62	
Iron and steel .....	41. 01	120. 96		64. 95	1. 50	
Labor and repairs .....	507. 20	1, 829. 02	84. 50	544. 05	1, 409. 99	
Loss on sale of sweeps .....						\$22. 64
Lumber .....	146. 67					
Machinery and appliances .....				1, 288. 75		
Metal work and castings .....		214. 32		182. 63		
Oils .....		246. 55		430. 93	71. 18	
Salt .....					16. 00	
Sewing .....	6. 40		3. 00	81. 05	135. 00	
Stationery, printing, and binding .....	282. 48		11. 25			
Sundries .....	1, 749. 98	25. 90	28. 15	1, 647. 89	282. 77	
Telegraphing .....	133. 47					
Washing .....	138. 90			29. 25		
Water .....		500. 00				
Wood .....		44. 90		3, 268. 36	14. 00	25. 50
Total .....	8, 284. 59	3, 021. 46	801. 39	9, 316. 83	15, 456. 41	48. 14
Salaries .....	17, 150. 00		5, 891. 29	4, 400. 00	4, 400. 00	
Wages of workmen .....	36, 403. 37	926. 74	2, 880. 94	57, 955. 19	20, 007. 56	
Aggregate .....	61, 837. 96	3, 948. 20	9, 573. 62	71, 672. 02	39, 863. 97	48. 14

## SUMMARY.

Items.	Amount.	Items.	Amount.
Acids.....	\$399.82	Loss on sale of sweeps.....	\$22.64
Assayer's materials.....	528.58	Lumber.....	146.67
Belting.....	56.89	Machinery and appliances.....	1,288.75
Charcoal.....	613.20	Metal work and castings.....	396.95
Chemicals.....	189.94	Oils.....	748.66
Coal.....	2,519.40	Salt.....	16.00
Coke.....	1,533.35	Sewing.....	225.45
Copper.....	8,435.00	Stationery, printing, and binding.....	293.73
Crucibles, covers, stirrers, and dippers.....	2,118.44	Sundries.....	3,734.69
Dry goods.....	1,049.88	Telegraphing.....	133.47
Freight and drayage.....	121.97	Washing.....	168.15
Gas.....	1,984.83	Water.....	500.00
Gloves and gauntlets.....	630.00	Wood.....	3,352.76
Hardware.....	293.93	Total.....	36,928.82
Ice.....	822.49	Salaries.....	31,841.29
Iron and steel.....	228.42	Wages of workmen.....	118,173.80
Labor and repairs.....	4,374.76	Aggregate.....	186,943.91

## ASSAY OFFICE AT NEW YORK.

The deposits of gold and silver bullion at the assay office at New York during the year amounted to \$61,839,162.05, against \$22,559,482.11 in the preceding year, an increase of \$39,279,679.94.

The increase in gold was owing largely to deposits of bullion and coin from foreign sources, and in silver to the transfer from the sub-treasury of trade-dollars. The deposits of bullion of domestic production did not differ materially in amount from those of the preceding year, but of the deposits of silver bullion the proportion of refined was larger.

The melter and refiner operated upon 2,904,738 ounces of gold bullion during the year, and delivered in settlement an excess of 914.061 ounces. He operated upon 4,828,925 ounces of silver bullion during the year, and delivered to the superintendent in settlement an excess of 1,311.18. He also melted and cast into bars trade-dollars to the amount of 2,787,165 gross ounces. This large volume of business was at an expense of about one-half cent an ounce, or about one-tenth of 1 per cent. of the value of the bullion. 3,822,148 ounces were parted and refined by acid, containing 764,676 ounces of gold and 3,005,812 of silver. 27,253 gold, 22,547 silver, and 2,562 trade-dollar bars were manufactured, a total of 52,462 bars during the year. Changes in the apparatus of the acid refinery have been completed and the entire apparatus is in good order.

The business of this institution has, as usual, been conducted with great economy and skill.

During the first half of the year an artesian well was bored in the court of the assay office to a depth of 465 feet from the level of the basement floor. Iron pipes connect the surface with the solid rock 42 feet beneath. The well has been used since April 1, and yields water at the rate of 50 gallons a minute. Its cost was \$3,057.04. The supply of water from the city works had often been found insufficient. No further apprehension is now felt. There will be a saving in the cost of water of about \$600 a year.

During the latter part of the year the New York Steam Company introduced a meter, three traps, and a drum, at a cost of \$575. The use of steam so supplied has proved satisfactory for all purposes, and has dispensed with much labor and with occupation of space incidental to a steam plant on the premises. It is believed that a saving will be effected by its introduction. An electric-light plant was also introduced during the year at a cost of \$750, and at a saving for illumination of about \$1,000 a year.

The values of foreign gold coins melted at the assay office at New York during the past fiscal year are exhibited in the following table:

Countries of coinage.	Denominations of coin.	Total of each denomination of coin.	Total by countries of coinage.
Costa Rica.....	Mixed.....	\$257.56	\$257.56
France.....	20 francs.....	1,219,351.02	1,219,351.02
Germany.....	20 marks.....	179,121.67	179,121.67
Great Britain.....	Sovereigns.....	1,018,036.21	1,018,036.21
Japan.....	Yens.....	18,608.37	18,608.37
Mexico.....	20 pesos.....	388,668.88	.....
Do.....	10 pesos.....	1,341.64	.....
Do.....	Doubloons.....	1,178.60	391,189.12
Russia.....	5 roubles.....	155,237.39	.....
Do.....	Roubles.....	2,596.80	.....
Do.....	4 imperials.....	577,223.34	735,057.53
Peru.....	20 soles.....	999.82	999.82
Spain.....	Doubloons.....	3,101,388.08	.....
Do.....	Isabellines.....	98,151.58	.....
Do.....	25 pesetas.....	957,276.17	.....
Do.....	Mixed.....	179,863.62	4,336,679.45
U. S. Colombia.....	Cinco pesos.....	709.76	709.76
Total.....	.....	7,900,010.51	7,900,010.51

The expenditure of the assay office at New York during the year for the different classes of supplies and in the different departments, is exhibited in the following table:

Items.	General department.		Assayer's department.	Melter and refiner's department.		Total.
	Proper.	Mechanical.		Proper.	Refinery.	
Acids.....	.....	.....	\$282.42	.....	\$14,685.05	\$14,967.47
Assayer's materials.....	.....	.....	770.82	.....	.....	770.82
Belting.....	.....	.....	19.31	.....	15.64	34.95
Charcoal.....	.....	.....	.....	.....	1,236.17	1,236.17
Chemicals.....	.....	.....	22.64	.....	.....	22.64
Coal.....	\$15.50	.....	96.12	.....	4,710.30	4,821.92
Copper.....	.....	.....	.....	.....	6,587.30	6,587.30
Crucibles, covers, stirrers, and dippers.....	.....	.....	12.40	.....	3,456.90	3,469.30
Dry goods.....	10.80	.....	11.75	.....	221.95	244.50

## REPORT ON THE FINANCES.

Items.	General department.		Assayer's department.	Melter's and refiner's department.		Total.
	Proper.	Mechanical.		Proper.	Refinery.	
Fluxes.....					\$1,298.76	\$1,298.76
Freight and drayage.....	\$11.37				647.25	658.62
Gas.....	458.24		\$526.00		716.19	1,700.43
Gloves and gauntlets.....					283.59	283.59
Hardware.....	11.50		44.12		339.38	395.00
Ice.....	57.26				48.23	105.49
Labor and repairs.....	1,281.08		65.88		451.33	1,798.29
Lumber.....					731.64	731.64
Machinery and appliances.....	31.70		148.00		124.38	304.08
Metal work and castings.....	45.38		37.30		2,604.52	2,087.20
Oil.....					36.00	36.00
Salt.....			3.00			3.00
Sewing.....					151.70	151.70
Stationery, printing, and binding.....	130.88					130.88
Sundries.....	592.37		171.57		1,154.96	1,918.90
Telegraphing.....	15.98					15.98
Barrels and cooperage.....					865.50	865.50
Water.....	26.00				410.10	436.10
Wood.....					264.00	264.00
Adjustment of weights.....	148.00		10.50			158.50
Advertisement for annual supplies.....	150.50					150.50
Artesian well, pumps, etc.....	3,130.04					3,130.04
Electric lighting.....	1,182.84					1,182.84
Lead, sheet and pipe.....					6,434.01	6,434.01
Rolling and cutting silver disks.....			59.85			59.85
Total.....	7,293.44		2,281.68		46,874.85	56,455.97
Salaries.....	22,502.45		11,200.00	\$5,500.00		39,202.45
Wages of workmen.....	11,154.00		12,207.00		49,717.17	73,078.17
Aggregate.....	40,955.89		25,688.68	5,500.00	96,592.02	168,736.59

## MINT AT CARSON.

Under the usual provision for the mint at Carson in the legislative appropriation act for the year, that mint was opened for deposits as an assay office with an acid refinery, in October, 1886. Joseph R. Ryan was appointed assayer, and David K. Tuttle melter and refiner, October 5, 1886.

The business from that date to the close of the fiscal year was practically insignificant. Deposits of gold were received for payment of value in coin, or by draft on San Francisco.

Silver bullion was purchased at a cost of \$38,629.12, in order to provide a stock of fine silver bars for prompt return of bars for silver deposits. Other deposits of silver were limited to their return in unparted or fine bars.

The melter and refiner operated during the year on 5,436 standard ounces of gold and 55,903 standard ounces of silver, and delivered a surplus in settlement of 22.492 ounces of gold and 421.71 ounces of silver.



The business of the mint for the fiscal year is exhibited in the following table:

	Value.
<b>Gold:</b>	
Deposited .....	\$45,512.59
Contained in silver deposits .....	21,346.51
Contained in silver purchases .....	40,812.12
<b>Total .....</b>	<b>107,671.22</b>
<b>Silver:</b>	
Purchased (cost value) .....	38,629.12
Deposited (cost value) .....	18,823.47
Contained in gold deposits (cost value) .....	983.94
<b>Total (cost) .....</b>	<b>58,436.53</b>
<b>Total gold and silver (cost value) .....</b>	<b>166,107.75</b>
<b>Mode of payment:</b>	
Payment in coin .....	143,012.76
fine silver bars .....	12,068.74
fine gold bars .....	170.79
unparted bars .....	9,567.28
<b>Total .....</b>	<b>164,819.57</b>
Deducted in charges (value) .....	1,288.18
<b>Total .....</b>	<b>166,107.75</b>

The expenditure of the mint at Carson during the year for the different classes of supplies and in the different departments is exhibited in the following table:

Items.	General department.	Assayer's department.	Melter-and-refiner's department.		Total.
			Proper.	Refinery.	
Acids .....				\$436.36	\$436.36
Assayer's materials .....				63.18	63.18
Charcoal .....	\$461.34				461.34
Chemicals .....		\$82.79			82.79
Crucibles, covers, stirrers, and dippers .....			\$231.57		231.57
Dry goods .....				8.15	8.15
Freight and drayage .....	28.95			66.89	95.84
Gas .....	370.20				370.20
Hardware .....	72.21			28.01	100.22
Iron and steel .....				5.25	5.25
Labor and repairs .....	36.50				36.50
Lumber .....				8.78	8.78
Metal work and castings .....				1.62	1.62
Oils .....	20.25				20.25
Sundries .....	392.41			8.75	401.16
Telegraphing .....	43.57				43.57
Washing .....	41.75				41.75
Water .....	456.25				456.25
Wood .....	116.35				116.35
<b>Total .....</b>	<b>2,039.78</b>	<b>82.79</b>	<b>231.57</b>	<b>626.99</b>	<b>2,981.13</b>
Salaries .....	7,481.70	2,549.20	1,752.72		11,783.62
Wages of workmen .....	12,127.00	1,942.00	3,830.00	3,056.00	20,955.00
<b>Aggregate .....</b>	<b>21,648.48</b>	<b>4,573.99</b>	<b>5,814.29</b>	<b>3,682.99</b>	<b>35,719.75</b>

Percentage of net expenses to deposits, 18.

I have, under a separate heading, taken occasion to recommend for the consideration of this Department the expediency of laying before Congress numerous reasons for abolishing the mint at Carson.

#### MINOR ASSAY OFFICES.

##### DEPOSITS, EARNINGS, AND EXPENDITURES OF MINOR ASSAY OFFICES, 1887.

Institutions.	Deposits.	Earnings.	Expenditures.
Denver .....	\$1,593,291.66	\$4,741.71	\$28,990.81
Helena .....	1,449,669.15	3,687.89	25,517.95
Boisé City .....	448,499.62	1,359.94	7,916.62
Charlotte .....	224,226.85	1,931.23	4,315.85
Saint Louis .....	112,948.94	696.28	5,339.30
Total .....	3,828,635.72	12,417.05	72,080.53

#### MINT AT DENVER.

The business of the mint of Denver as an assay office, as well as of the other assay offices of the United States, largely increased during the past year.

The mint building has been for many years in a state of dilapidation. The furnaces and appliances for melting and assaying were crude and practically worn out from use. During the past year, under a special appropriation by Congress of \$2,000, the foundations of the building have been replaced in part with new stone laid in cement and the brick walls repaired. The wooden sidewalk has been replaced with flagging. Iron gratings have been added to all the windows of the building and iron gates at the main entrance. Gas-melting and refining furnaces have been adopted. An Otto gas-engine was also introduced.

The deposits, earnings, and expenditures are exhibited in the following table:

Items.	Amount.
Deposits .....	\$1,593,291.66
Earnings .....	4,741.71
Expenses .....	28,990.81

Percentage of net expenses to deposits, 1 $\frac{1}{2}$ .

The expenditure of the mint at Denver during the year for the different classes of supplies is exhibited in the following table:

Items.	General department.		Assayer's department.	Melter's department.	Total.
	Proper.	Mechanical.			
Assayer's materials.....			\$18. 05		\$18. 05
Charcoal.....			223. 98	\$635. 61	859. 59
Chemicals.....			72. 35	32. 05	104. 40
Coal.....	\$108. 59				108. 59
Crucibles, covers, stirrers, and dip-pers.....			7. 50	274. 93	282. 43
Dry goods.....	110. 41				110. 41
Fluxes.....				79. 08	79. 08
Freight and drayage.....	55. 39				55. 39
Gas.....	107. 60				107. 60
Hardware.....	29. 05		. 50		29. 55
Ice.....	21. 20				21. 20
Labor and repairs.....	476. 52			62. 05	538. 57
Lumber.....	37. 21			13. 03	50. 24
Machinery and appliances.....	37. 31	\$1, 385. 90	237. 15	375. 09	2, 035. 45
Salt.....				. 10	. 10
Stationery, printing, and binding.....	74. 62				74. 62
Sundries.....	466. 63		4. 20		470. 83
Telegraphing.....	41. 96				41. 96
Washing.....	19. 80				19. 80
Water.....	102. 95				102. 95
Zinc.....			2. 00		2. 00
Total.....	1, 689. 24	1, 385. 90	565. 73	1, 471. 94	5, 112. 81
Salaries.....	8, 379. 34			2, 250. 00	10, 629. 34
Wages of workmen.....	5, 157. 25	122. 46	4, 227. 00	3, 741. 95	13, 248. 66
Aggregate.....	15, 225. 83	1, 508. 36	4, 792. 73	7, 463. 89	28, 990. 81

## ASSAY OFFICE AT HELENA, MONT.

Gas has been introduced both into the assaying and melting departments, and applied to the muffles and melting furnaces, and to a four horse-power gas-engine. It is estimated that the saving in the cost of fuel will be 40 per cent.

The deposits, earnings, and expenditures for the year are exhibited in the following table:

Items.	Amount.
Deposits.....	\$1, 449, 669. 15
Earnings.....	3, 687. 89
Expenses.....	25, 517. 95

Percentage of net expenses to deposits, 1 1/2.

The expenditure of the assay office at Helena during the year for the different classes of supplies is exhibited in the following table:

Items.	Assayer's department.	Melter's department.	Total.
Acids .....	\$18. 90	\$14. 62	\$33. 52
Assayer's materials .....	146. 38	.....	146. 38
Belting.....	15. 58	.....	15. 58
Charcoal.....	.....	29. 23	29. 23
Chemicals.....	8. 10	.....	8. 10
Coke.....	.....	1,008. 11	1,008. 11
Crucibles, covers, stirrers, and dippers.....	.....	549. 49	549. 49
Dry goods.....	6. 88	.....	6. 88
Freight and drayage.....	344. 59	102. 25	446. 84
Gas.....	311. 75	.....	311. 75
Gloves and gauntlets .....	6. 50	.....	6. 50
Hardware .....	98. 85	24. 00	122. 85
Ice .....	31. 36	.....	31. 36
Labor and repairs .....	656. 59	37. 75	694. 34
Lumber.....	4. 10	.....	4. 10
Machinery and appliances.....	681. 65	.....	681. 65
Metal work and castings .....	83. 19	310. 08	393. 27
Oils.....	82. 00	.....	82. 00
Stationery, printing, and binding .....	178. 67	.....	178. 67
Sundries.....	549. 60	27. 50	577. 10
Telegraphing.....	70. 98	.....	70. 98
Washing .....	33. 50	.....	33. 50
Water.....	125. 00	.....	125. 00
Wood.....	439. 50	.....	439. 50
Total.....	3,893. 67	2,103. 03	5,996. 70
Salaries.....	5,450. 00	2,250. 00	7,700. 00
Wages of workmen.....	.....	.....	11,821. 25
Aggregate.....	9,343. 67	4,353. 03	25,517. 95

#### ASSAY OFFICE AT BOISÉ CITY, IDAHO.

The value of the gold and silver deposited at the assay office at Boise City during the fiscal year 1887 was \$448,499.62 against \$122,461.63 in the year preceding.

Since the close of the fiscal year 1887 the business of this institution has still further increased.

During the first two and a half months of the fiscal year 1888 the number of deposits was 335, against 245 in the first three months of the fiscal year 1887, and against 137 in the first three months of the fiscal year 1886, showing an increase in the standard weight of the bullion contained in these deposits of 857 per cent. in 1888 over 1886, and of 296 per cent. in 1887 over 1886.

At the rate of business of the first quarter of the present fiscal year it is estimated that deposits during the year 1888 will exceed the value of \$1,000,000.

This institution is located at a very convenient point for producers of bullion, in the immediate vicinity of a large and growing mining country; where are found few, if any private facilities such as are provided by an assay office of the United States, for the conversion of deposits of gold bullion into cash value. Shipments of bullion are now received from eastern Idaho and central Oregon. Numerous mines in the districts tributary to Boise City have been recently opened and mills erected. The city has been but recently reached by railway, and thus opened to communication with several new mining districts.

Not only is new apparatus needed at this institution, but the building and grounds are in need of immediate repair. The appropriations made by Congress for its support are inadequate. The total amount appropriated for the service of the fiscal year 1887 was \$8,000, and for the fiscal year 1888 the appropriations are the same, with the exception of an additional but inadequate appropriation of \$1,000 for repair of the building. Of the amount appropriated (\$8,000) \$3,000 are for salaries, leaving only \$5,000 for workmen, material, apparatus, and expenses of all kinds.

A deficiency estimate for 1885 of \$335 was submitted by the Department to the last Congress, and, from the failure of a deficiency bill, still stands. A deficiency estimate of \$335 for 1887, as well as one for the present year (1888), will be submitted to the Department for presentation to the next Congress.

If it is the desire of Congress that this institution, which was established for the benefit of the mining interests of Idaho and the surrounding country, be maintained so as to meet the natural growth of its business, increased appropriations for labor, materials, and repairs should be made, as to carry it on at its present rate of business will be impracticable with appropriations no larger than were made by Congress for its support during the current fiscal year.

The value of the deposits and the earnings and expenses of this office in 1887 were as follows:

Items.	Amount.
Deposits.....	\$448,499.62
Earnings.....	1,359.94
Expenses.....	7,916.62
Percentage of net expenses to deposits, 1 $\frac{1}{2}$ .	

The expenditure of the assay office at Boise City during the year for the different classes of supplies is exhibited in the following table:

Items.	Amount.
Acids.....	\$75.30
Assayer's materials.....	111.85
Charcoal.....	183.00
Chemicals.....	23.65
Crucibles, covers, stirrers, and dippers.....	62.93
Freight and drayage.....	51.68
Gloves and gauntlets.....	8.00
Hardware.....	88.82
Ice.....	40.00
Labor and repairs.....	8.00
Lumber.....	20.89
Oils.....	104.80
Silver.....	4.75
Stationery, printing, and binding.....	46.99
Sundries.....	154.79
Telegraphing and telephone.....	115.57
Washing.....	18.50
Water.....	58.50
Wood.....	129.00
Total.....	1,312.02
Salaries.....	3,000.00
Wages of workmen.....	3,004.60
Aggregate.....	7,916.62

## REPORT ON THE FINANCES.

## ASSAY OFFICE AT CHARLOTTE, N. C.

The assay office at Charlotte may be said to be fulfilling the purpose for which it was established, and to provide necessary facilities to a mining region in relation to which it occupies a central position.

Its deposits, earnings, and expenditures are exhibited as follows:

Items.	Amount.
Deposits.....	\$224, 226. 35
Earnings .....	1, 931. 23
Expenses .....	4, 315. 85

Percentage of net expenses to deposits, 1.6.

The expenditure of the assay office at Charlotte during the year for the different classes of supplies is exhibited in the following table:

Items.	Amount.
Acids .....	\$21. 79
Charcoal.....	143. 70
Chemicals.....	91. 30
Coal .....	37. 00
Crucibles, covers, stirrers, and dippers.....	123. 92
Dry goods .....	2. 46
Fluxes .....	7. 87
Freight and drayage.....	2. 68
Gas.....	85. 90
Hardware.....	51. 47
Ice.....	13. 27
Labor and repairs.....	18. 80
Lumber.....	4. 74
Stationery, printing, and binding.....	52. 10
Sundries.....	43. 25
Telegraphing .....	04. 60
Water .....	53. 00
Wood.....	68. 50
Total .....	886. 35
Salaries.....	2, 750. 00
Wages of workmen .....	679. 50
Aggregate.....	4, 315. 85

## ASSAY OFFICE AT SAINT LOUIS, MO.

The deposits, earnings, and expenditures at the assay office at Saint Louis during the year were as follows:

Items.	Amount.
Deposits.....	\$112, 948. 94
Earnings .....	696. 28
Expenses .....	5, 339. 30

Percentage of net expenditures to value of deposits, 3.9.

The expenditure of the assay office at Saint Louis during the year for the different classes of supplies is exhibited in the following table :

Items.	Amount.
Acids.....	\$20.93
Assayer's materials.....	38.11
Charcoal.....	38.42
Chemicals.....	20.25
Coal.....	124.95
Crucibles, covers, stirrers, and dippers.....	25.50
Dry goods.....	9.00
Drayage (hauling ashes).....	7.00
Gas.....	92.85
Hardware, including stove, \$8.75.....	18.65
Ice.....	4.90
Oils.....	3.00
Stationery, printing, and binding.....	9.19
Sundries.....	28.20
Telegraphing.....	3.32
Washing.....	18.75
Advertisement for supplies.....	15.60
Total.....	478.62
Salaries.....	3,478.18
Wages of workmen.....	1,382.50
Aggregate.....	5,339.30

On the ground that its operations to the very narrow extent that they are within the purpose of public institutions of this kind, are not of sufficient importance to warrant the cost of the maintenance of this assay office, I have taken occasion in another part of this report to recommend that it be discontinued.

#### ANNUAL TRIAL OF COINS.

The following named persons were designated by the President to test and examine the weight and fineness of the coins reserved at the several mints during the calendar year 1886, pursuant to the provisions of section 3547 of the Revised Statutes: Isham G. Harris, United States Senate; R. P. Bland, House of Representatives; E. E. Burlingame, Denver, Colo.; P. E. Chazal, Charleston, S. C.; William L. Dudley, Nashville, Tenn.; George S. Eastwick, New Orleans, La.; Frederick A. Genth, Philadelphia, Pa.; Arnold Hague, Washington, D. C.; F. N. Holbrook, El Paso, Tex.; Henry M. Howe, Boston, Mass.; Louis Janin, San Francisco, Cal.; W. P. Lawver, Washington, D. C.; Spencer B. Newbury, Ithaca, N. Y.; George S. Weed, Plattsburgh, N. Y.; N. H. Winchell, Minneapolis, Minn.; Arthur W. Wright, New Haven, Conn.

The *ex officio* members present were William Butler, judge of the United States district court for the eastern district of Pennsylvania; William L. Trenholm, the Comptroller of the Currency; and Herbert G. Torrey, the assayer of the United States assay office at New York.

The Commission met at the mint at Philadelphia, Wednesday, February 9, 1887, and proceeded to examine and test the fineness and weight of the gold and silver coins reserved at the mints at Philadelphia, San Francisco, and New Orleans during the year 1886.

The result of the trial by the Commission was stated in the following resolution:

*Resolved*, That the Assay Commission, having examined and tested the reserved coins of the several mints for the year 1886, and it appearing that these coins do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial is considered and reported as satisfactory.

The trial of the coins by the Assay Commission showed that the average fineness of 252 pieces of gold coined at the mints at Philadelphia and San Francisco, melted in mass, was .89995, and of 37 pieces tested singly .900046; and of 540 silver dollars of the coinage of the mints at Philadelphia, San Francisco, and New Orleans, melted in mass, together with 25 dimes coined at San Francisco, .899933, and of 53 pieces tested singly, .899789; the standard of each being .900.

The result of the tests made in the assay laboratory under my direction of the monthly coinage during the year showed the average fineness of 176 pieces of gold of the coinage of the mints at Philadelphia and San Francisco, tested singly, to have been .899827, and of 304 silver dollars tested singly, .899981. Tests were also made during the year of 340 dimes of the year's coinage, the average fineness of which was .899626.

The results of both the annual and monthly tests show that the coinage of the year was close to the standard fixed by law.

In the Appendix will be found tables showing in detail the results of the annual and monthly assays of coins of the United States.

#### VALUES OF FOREIGN COINS.

In accordance with the provisions of section 3564 of the Revised Statutes of the United States the values of the standard coins of the various nations of the world were estimated by this Bureau and proclaimed by the Department on January 1, 1887.

These estimates, to be followed at the custom-houses of the United States on and after January 1, 1887, in determining the values of invoices expressed in terms of foreign units of account, are shown in the following table:

#### ESTIMATE OF VALUES OF FOREIGN COINS.

NOTE.—The "standard" of a given country is indicated as follows, namely: *Double*, where its standard silver coins are unlimited legal tender, the same as its gold coins; *single gold* or *single silver*, as its standard coins of one or the other metal are unlimited legal tender. The par of exchange of the monetary unit of a country with a single gold, or a double, standard is fixed at the value of the gold unit as compared with the United States gold unit. In the case of a country with a single silver standard, the par of exchange is computed at the mean price of silver in the London market for a period commencing October 1 and ending December 26, 1886, as per daily cable dispatches to the Bureau of the Mint.

Country.	Standard.	Monetary unit.	Par of exchange or equivalent value in terms of U. S. gold dollar.	Coins.
Argentine Republic.	Double .....	Peso .....	\$0. 965	Gold: argentine (\$4.824) and $\frac{1}{2}$ argentine. Silver: peso and divisions.
Austria.....	Singlesilver	Florin .....	. 359	Gold: 4 florins (\$1.929), 8 florins (\$3.858), ducat (\$2.287), and 4 ducats (\$9.158). Silver: 1 and 2 florins.



## ESTIMATE OF VALUES OF FOREIGN COINS—Continued.

Country.	Standard.	Monetary unit.	Par of exchange or equivalent value in terms of U. S. gold dollars.	Coins.
Belgium .....	Double .....	Franc .....	.193	Gold: 10 and 20 francs. Silver: 5 francs.
Bolivia .....	Single silver	Boliviano .....	.727	Silver: Boliviano and divisions.
Brazil .....	Single gold	Milreis of 1,000 reis.	.546	Gold: 5, 10, and 20 milreis. Silver: $\frac{1}{2}$ , 1, and 2 milreis.
British Possessions N. A.	Single gold	Dollar .....	1.00	
Chili .....	Double .....	Peso .....	.912	Gold: escudo (\$1.824), doubloon (\$4.561), and condor (\$9.123). Silver: peso and divisions.
Cuba .....	Double .....	Peso .....	.932	Gold: doubloon (\$5.017). Silver: peso.
Denmark .....	Single gold	Crown .....	.268	Gold: 10 and 20 crowns.
Ecuador .....	Single silver	Sucre .....	.727	Gold: doubloon (\$3.858), condor (\$9.647), and double condor. Silver: sucre and divisions.
Egypt .....	Single gold	Pound (100 piasters).	4.943	Gold: pound (100 piasters), 50 piasters, 20 piasters, 10 piasters, and 5 piasters. Silver: 1, 2, 5, 10, and 20 piasters.
France .....	Double .....	Franc .....	\$0.193	Gold: 5, 10, 20, 50, and 100 francs. Silver: 5 francs.
German Empire .....	Single gold	Mark .....	.238	Gold: 5, 10, and 20 marks.
Great Britain .....	Single gold	Pound sterling.	4.866 $\frac{1}{2}$	Gold: sovereign (pound sterling) and $\frac{1}{2}$ sovereign.
Greece .....	Double .....	Drachma .....	.193	Gold: 5, 10, 20, 50, and 100 drachmas. Silver: 5 drachmas.
Hayti .....	Double .....	Gourde .....	.965	Gold: 1, 2, 5, and 10 gourdes. Silver: gourde.
India .....	Single silver	Rupee of 16 annas.	.346	Gold: mohur (\$7.105). Silver: rupee and divisions.
Italy .....	Double .....	Lira .....	.193	Gold: 5, 10, 20, 50, and 100 lire. Silver: 5 lire.
Japan .....	*Double .....	Yen { Gold... Silver .....	.997 .784	Gold: 1, 2, 5, 10, and 20 yen. Silver: yen.
Liberia .....	Single gold	Dollar .....	1.00	
Mexico .....	Single silver	Dollar .....	.79	Gold: dollar (\$0.983), 2 $\frac{1}{2}$ , 5, 10, and 20 dollars. Silver: dollar (or peso) and divisions.
Netherlands .....	Double .....	Florin .....	.402	Gold: 10 florins. Silver: $\frac{1}{2}$ , 1, and 2 $\frac{1}{2}$ florins.
Norway .....	Single gold	Crown .....	.268	Gold: 10 and 20 crowns.
Peru .....	Single silver	Sol .....	.727	Silver: sol and divisions.
Portugal .....	Single gold	Milreis of 1,000 reis.	1.08	Gold: 1, 2, 5, and 10 milreis.
Russia .....	Single silver	Rouble of 100 copecks.	.582	Gold: imperial (\$7.718), and $\frac{1}{2}$ imperial † (\$3.859). Silver: $\frac{1}{2}$ , $\frac{1}{4}$ , and 1 rouble.
Spain .....	Double .....	Peseta of 100 centimes.	.193	Gold: 5, 10, and 25 pesetas. Silver: 5 pesetas.

## ESTIMATE OF VALUES OF FOREIGN COINS—Continued.

Country.	Standard.	Monetary unit.	Par of exchange or equivalent value in terms of U. S. gold dollar.	Coins.
Sweden .....	Single gold	Crown .....	.268	Gold: 10 and 20 crowns.
Switzerland .....	Double .....	Franc .....	.193	Gold: 5, 10, 20, 50, and 100 francs. Silver: 5 francs.
Tripoli .....	Single silver	Mahbub of 20 piasters.	.656	
Turkey .....	Single gold	Piaster .....	.044	Gold: 25, 50, 100, 250, and 500 piasters.
United States Colom- bia.	Single silver	Peso .....	.727	Gold: condor (\$9.647) and double- condor. Silver: peso.
Venezuela .....	Double .....	Bolivar .....	.193	Gold: 5, 10, 20, 50, and 100 boli- vars. Silver: 5 bolivars.

\* Gold the nominal standard. Silver practically the standard.  
† Coined since January 1, 1886. Old half-imperial = \$3.986.

The average price of silver in London for the period embraced between October 1 and December 26, 1886, was 45.862 pence per ounce, British standard, equivalent at the par of exchange to \$1.00535 per ounce fine.

The corresponding value of silver for the three months ending December 24, 1885, was \$1.038141 per ounce fine, a decline of \$0.03279, a little over three cents a fine ounce.

The depression in the price of silver occasioned a change in the estimated values given the following coins:

Coins.	Value, Jan. 1, 1886.	Value, Jan. 1, 1887.
Florin of Austria .....	\$0.371	\$0.359
Boliviano of Bolivia .....	.751	.727
Sucre of Ecuador .....	.751	.727
Rupee of India .....	.357	.346
Yen of Japan .....	.810	.784
Dollar of Mexico .....	.816	.790
Sol of Peru .....	.751	.727
Rouble of Russia .....	.601	.582
Mahbub of Tripoli .....	.677	.656
Peso of United States of Colombia .....	.751	.727

The monetary unit of Egypt has been nominally changed from the piaster to the pound containing one hundred piasters.

The monetary unit of Ecuador also has been nominally changed from the peso to the sucre, but with no change as to weight or fineness.

In regard to Japan, in the table for 1887 the values of the gold and silver yen were estimated separately, for the reason that while by law the standard of Japan is gold, silver is practically the standard of value, and invoices of merchandise from Japan are generally in terms of the silver yen.

REGULATIONS GOVERNING THE TRANSACTION OF BUSINESS AT THE  
MINTS AND ASSAY OFFICES OF THE UNITED STATES.

When the duties of the office of the Director of the Mint were entered upon by me, the regulations governing the transaction of business at the mints and assay offices of the United States were contained in a pamphlet, the edition of which, bearing date of the year 1881, was exhausted, in supplementary printed circulars issued by the Bureau of the Mint, and in manuscript letters.

For the purpose of embodying all of the regulations, and in order to make some changes which I deemed of importance, a revision of the regulations was undertaken, and an edition bearing the approval of the Department issued under date of January 17, 1887, to take effect April 1, 1887.

The regulations of 1887 make some important changes in the method of reporting the business of the institutions under the control of this Bureau, in the schedule of charges on deposits of bullion, and in the method of reporting on bullion at the mints and assay offices.

One of the more important changes contained in the new regulations provides that—

Deposits of fine bars, of United States or foreign coin, of bars bearing the stamp of a United States mint or assay office (except unparted bars), and all gold deposits of standard fineness or over, not requiring parting or refining, shall be reported to the quarter-thousandth.

It had previously been the practice to report all deposits of gold and silver to the half-thousandth.

With the modern methods of assaying, and with the technical skill employed in the assay departments of the several institutions, it has been found that the class of deposits enumerated above could, without loss to the Government and with benefit to the depositor, be reported as closely as the quarter-thousandth.

To the same volume of regulations are appended the laws of the United States—sections of the Revised Statutes with marginal references to the Statutes at Large—governing the Mint service.

A new edition embodying still later amendments of the regulations is in course of preparation. This will be submitted for the approval of the Department during the present fiscal year, soon after certain proposed amendments of law, specially referred to in this report under a separate heading, and already approved by the Department, shall again have been laid before Congress, when, it is to be trusted, their immediate importance will lead them to be duly submitted to prompt legislation.

## PRODUCTION OF GOLD AND SILVER IN THE UNITED STATES.

The production of the mines of the United States in gold and silver was fully exhibited in my special report on that subject for the calendar year 1886, being the seventh of a series of reports prepared by this Bureau under annual appropriations and printed under the same title by order of Congress.

The estimated product of the mines of the United States for the calendar year 1886 was there stated to have been :

Métal.	Value.
Gold.....	\$35,000,000
Silver.....	51,000,000
Total.....	86,000,000

In the above estimate silver was reckoned at its coining rate in silver dollars, the actual production estimated by the Bureau being 39,445,312 fine ounces of silver. The average price of silver for the calendar year in question being about \$1 per fine ounce, the market value of the silver production of the United States for the calendar year 1886 may be stated to have been about \$39,500,000. This aggregate was approximately distributed, in round numbers, among the States and Territories as exhibited in the following table:

State or Territory.	Gold.	Silver.	Total.
Alaska.....	\$440,000	\$2,000	\$448,000
Arizona.....	1,110,000	3,400,000	4,510,000
California.....	14,725,000	1,400,000	16,125,000
Colorado.....	4,450,000	16,000,000	20,450,000
Dakota.....	2,700,000	425,000	3,125,000
Georgia.....	152,500	1,000	153,500
Idaho.....	1,800,000	3,600,000	5,400,000
Montana.....	4,425,000	12,400,000	16,825,000
Nevada.....	3,090,000	5,000,000	8,090,000
New Mexico.....	400,000	2,300,000	2,700,000
North Carolina.....	175,000	3,000	178,000
Oregon.....	990,000	5,000	995,000
South Carolina.....	37,500	500	38,000
Utah.....	216,000	6,500,000	6,716,000
Washington.....	147,000	80,000	227,000
Texas.....		200,000	200,000
Alabama, Tennessee, Virginia, Vermont, Michigan, and Wyoming.....	5,000	5,000	10,000
Total.....	34,869,000	51,321,500	86,190,500

The estimated production in the United States for a series of years is presented in the following table:

Calendar years.	Gold.	Silver.	Total.
1880.....	\$36,000,000	\$39,200,000	\$75,200,000
1881.....	34,700,000	43,000,000	77,700,000
1882.....	32,500,000	46,800,000	79,300,000
1883.....	30,000,000	46,200,000	76,200,000
1884.....	30,800,000	48,800,000	79,600,000
1885.....	31,800,000	51,600,000	83,400,000
1886.....	35,000,000	51,000,000	86,000,000

It will be noticed that the production of gold increased from \$31,800,000 in 1885 to \$35,000,000 in 1886, while the production of silver was practically the same, being \$51,600,000 in 1885 against \$51,000,000 in 1886.

In the Appendix will be found a table showing the production of gold and silver in the United States from the organization of the mint in 1792.

## INDUSTRIAL EMPLOYMENT OF GOLD AND SILVER IN THE UNITED STATES.

In my preceding fiscal report the results of the last inquiries by this Bureau into the employment of gold and silver in the industries of the United States were presented in tabular form. These covered the calendar year 1885. The results of the other censuses taken by the Bureau for the years 1880, 1881, and 1883 were recapitulated in the same report.

Since the publication of that report some additions and corrections have been made in the reported employment for 1885, as published in my special report on the Production of Gold and Silver in the United States for the calendar year 1886.

The result of the last inquiry as revised is presented in the following table:

REVISED TABLE SHOWING THE VALUE AND CHARACTER OF GOLD AND SILVER USED IN THE ARTS AND MANUFACTURES DURING THE CALENDAR YEAR 1885, AS REPORTED BY PERSONS AND FIRMS ADDRESSED.

Manufactures.	Number ad- dressed.	Replied.	Manufacturing.	United States coin.	Stamped United States or refined bars.	Foreign coin.	Old jewelry, plate, and other old material.	Native grains, nuggets, etc.	Wire or rolled plate.	Total.
<b>GOLD.</b>										
Chemicals .....	341	219	39	\$32,040	\$13,903	.....	\$6,063	\$29	\$4,341	\$56,376
Plating .....	634	348	226	257,741	218,831	\$801	178,510	21,295	15,537	695,715
Gold pens .....	34	22	11	7,433	34,886	2,867	990	3,526	6,753	56,455
Gold and silver leaf.	72	51	46	58,150	527,453	2,000	31,050	19,700	39,001	677,354
Dental and surgi- cal instruments..	154	98	47	3,970	149,186	100	14,942	2,400	4,188	174,786
Spectacles and op- ticals .....	384	218	80	207,907	62,420	642	17,169	314	2,291	290,743
Miscellaneous .....	106	73	27	116,604	44,168	8,000	17,337	1,000	3,835	190,944
Jewelry and watches .....	6,329	3,351	2,231	2,143,533	5,183,187	164,503	581,654	451,629	485,241	9,009,747
Total .....	8,054	4,380	2,707	2,827,378	6,234,034	178,913	847,715	502,893	561,187	11,152,120
<b>SILVER.</b>										
Chemicals .....	.....	.....	.....	91	305,105	.....	73,561	106	2,165	381,088
Plating .....	.....	.....	.....	32,824	1,990,587	25,434	43,191	12,798	157,922	2,262,756
Gold pens .....	.....	.....	.....	55	3,191	.....	249	558	5	4,058
Gold and silver leaf.	.....	.....	.....	.....	21,881	.....	708	20	23,512	46,121
Dental and surgi- cal instruments..	.....	.....	.....	4,682	107,717	1,401	7,057	4,450	2,494	127,801
Spectacles and op- ticals .....	.....	.....	.....	8,587	48,424	155	4,250	210	942	56,568
Miscellaneous .....	.....	.....	.....	838	5,330	.....	268	70	1,017	7,523
Jewelry and watches .....	.....	.....	.....	86,567	1,354,308	35,718	116,129	85,060	28,716	1,712,498
Photography and mirrors (silver ni- trate), estimated.	.....	.....	.....	.....	600,000	.....	.....	.....	.....	600,000
Total .....	.....	.....	.....	133,644	4,436,603	62,708	245,413	103,272	216,773	5,198,413

REVISED TABLE SHOWING THE CHARACTER AND VALUE OF THE PRECIOUS METALS REPORTED BY MANUFACTURERS, JEWELERS, AND OTHERS, AS USED BY THEM DURING THE CALENDAR YEAR 1885.

Character.	Gold.	Silver.	Total.
United States coin.....	\$2, 827, 378	\$133, 644	\$2, 961, 022
Stamped United States or refined bars.....	6, 234, 034	4, 436, 603	10, 670, 637
Foreign coin.....	178, 913	62, 708	241, 621
Old jewelry, plate, and other old material.....	847, 715	245, 413	1, 093, 128
Native grains, nuggets, etc.....	502, 893	103, 272	606, 165
Wire or rolled plate.....	561, 187	216, 773	777, 960
Total.....	11, 152, 120	5, 198, 413	16, 350, 533

The employment of gold in the United States is reported as \$11,152,120, and the employment of silver as \$5,198,413, a total of \$16,350,533. Deducting the value of the United States and foreign gold coins used by manufacturers and jewelers during the year (\$3,006,291) and of old material used over \$847,715, a total of \$3,854,006, leaves as the employment of new gold \$7,298,114.

Deducting from the total of silver reported (\$5,198,413) corresponding items, amounting to \$441,765, leaves as the employment of new silver in the arts \$4,756,648: a total of new gold and new silver used during the year amounting to \$12,054,762.

Inquiries on the present subject by this Bureau can be undertaken only at intervals of several years. For they involve not only excessive clerical labor, but they tax unduly the patience and courtesy of valued correspondents of the Bureau. It is not presumed, however, that the conditions of the industrial employment of the precious metals vary so materially from year to year as to require the frequent repetition of the same inquiries.

I have on the present occasion nothing further to offer on the same subject for the fiscal year 1887 than a statement showing the value and classification of the deposits at the assay office at New York and at the mint at Philadelphia for bars of gold and silver, presumably for use in the arts and manufactures.

Classification of deposits.	Gold.	Silver.
ASSAY OFFICE AT NEW YORK.		
United States coin.....	\$1, 104. 69	\$1, 528. 58
Foreign coin.....	172, 342. 48	70, 202. 91
Foreign bullion.....	366, 793. 57	572, 865. 72
Plate, etc.....	817, 265. 74	203, 037. 74
Domestic bullion.....	1, 517, 749. 59	3, 580, 503. 46
Large gold bars exchanged for gold coin and re-deposited for small bars, less the charges and fractions paid in gold coin..	3, 727, 320. 85	
	6, 602, 576. 92	
Large gold bars exchanged for coin, and taken by manufacturers.....	1, 707, 861. 61	
Total.....	8, 310, 438. 53	4, 437, 138. 41
MINT AT PHILADELPHIA.		
Bars manufactured.....	585, 272. 30	34, 508. 07
Total.....	8, 895, 710. 83	4, 471, 646. 48

According to this statement the value of the gold bars issued by the two institutions for industrial employment amounted during the year to \$8,895,710.83, against \$6,581,457.67 during the fiscal year 1886. The value of the silver bars furnished was \$4,471,646.48 in 1887, against \$4,636,106.31 in 1886.

These figures apparently indicate an increased employment of gold in the arts. But it may be stated that the indication is rather of a consumption of bars, of a probable falling off in the employment of United States coin, and of a tendency to use bars for industrial purposes rather than to melt coin.

#### IMPORTS AND EXPORTS OF GOLD AND SILVER.

In the Appendix will be found tables showing by months and by customs districts the imports of coin and bullion into the United States during the fiscal year 1887, and the exports for the same period. Tables will also be found showing the imports of gold and silver ore. Also special tables showing the imports and exports at the ports of San Francisco, New Orleans, and El Paso.

The value of the gold bullion imported during the fiscal year 1887, according to statements furnished from the custom-houses was \$19,770,714. Of this there was afterwards exported \$18,932. There was also exported gold bullion, principally stamped United States bars, of the value of \$2,154,534, leaving a net gain to the country by imports of gold bullion of the value of \$17,597,248.

In addition to the imports of gold bullion, gold coin was imported of the value of \$23,139,887, of which \$5,862,509 consisted of United States coins and \$17,277,378 of coins bearing stamps of foreign mints.

There were exported \$3,550,770 of United States gold coin and \$3,976,951 of foreign gold coin. There were accordingly gained by imports during the year \$2,311,739 of our own gold coin and \$13,300,427 of foreign gold coin; a net gain to the country of foreign gold bullion and foreign gold coin of the value of \$30,897,675, in addition to a gain of domestic gold coin amounting to \$2,311,739; the total gain in gold bullion and gold coin amounting to \$33,209,414.

The value of the foreign gold bullion deposited at the mints and assay offices of the United States during the year was \$22,571,328.70, and the value of the foreign gold coin deposited at the same institutions was \$9,896,512.28; a total of \$32,467,840.98, corresponding to the value of the foreign gold coin and gold bullion which reached the mints and assay offices of the United States.

The movement of gold bullion and gold coin to and from the United States is exhibited in the following table:

IMPORTS.	
Bullion .....	\$19,770,714
Foreign coin.....	17,277,378
Total .....	37,048,092
United States coin.....	5,862,509
Total .....	42,910,601
EXPORTS.	
Foreign bullion .....	18,932
Domestic bullion .....	2,154,534
Foreign coin.....	3,976,951
Total .....	6,150,417
United States coin .....	3,550,770
Total .....	9,701,187
Excess of imports .....	33,209,414

The imports of silver bullion amounted to \$4,932,697, and the exports of silver bullion of native production amounted to \$16,941,713, showing a net export of silver bullion of \$12,009,016. The value of the silver coin imported into the United States was \$12,327,494, of which \$1,239,605 was domestic and \$11,087,889 foreign.

The exports of silver coin were \$9,354,791, of which \$63,323 was in domestic coin and \$9,291,468 in foreign coin.

The net export of silver bullion and foreign silver coin, over and above the imports of the same, was \$10,212,595, and the net import of domestic silver coin was \$1,176,282.

The movement of silver is exhibited in the following table:

IMPORTS.	
Silver bullion.....	\$4,932,697
Foreign coin.....	11,087,889
Total.....	16,020,586
United States coin.....	1,239,605
Total.....	17,260,191
EXPORTS.	
Domestic bullion.....	16,941,713
Foreign coin.....	9,291,468
Total.....	26,233,181
United States coin.....	63,323
Total.....	26,296,504
Excess of exports.....	9,036,313

#### STOCK OF COIN IN THE UNITED STATES.

A table is presented herewith showing the estimate of the Bureau of the Mint of the stock of gold and silver coin in the United States at the close of the fiscal year 1887:

Items.	Gold.	Silver.	Total.
Estimated circulation July 1, 1886.....	\$548,320,031	\$308,784,223	\$857,104,254
Coinage for fiscal year 1887.....	22,393,279	34,366,483	56,759,762
Net imports.....	2,311,739	409,151	2,720,890
Total.....	573,025,049	343,559,857	916,584,906
Less deposits of United States coin.....	516,984	821,941	1,338,925
Used in the arts.....	3,500,000	200,000	3,700,000
Total.....	4,016,984	1,021,941	5,038,925
Estimated circulation July 1, 1887.....	569,008,065	342,537,916	911,545,981

In addition to the gold and silver coin estimated to have been in the country on the 1st of July, 1887, there was bullion belonging to the Government and awaiting coinage, in the mints and assay offices at that date, as follows:

Metal.	Cost.
Gold.....	\$85,512,270
Silver.....	10,455,650
Total.....	95,967,920



This, added to the stock of coin, gives as the total metallic stock in the United States:

Metal.	Value.
Gold.....	\$654, 520, 335
Silver.....	352, 993, 566
Total .....	1, 007, 513, 901

The method employed by this Bureau in arriving at the stock of coined money in the United States has been so fully explained in my reports for the fiscal years 1885 and 1886, and also in my special reports on the Production of the Precious Metals in the United States for the corresponding calendar years, that it will not here be necessary to enter into any extended explanation.

The starting point of the estimate of this Bureau is the stock of coin in the United States on the 1st of July, 1873, estimated by Dr. Henry R. Linderman, then Director of the Mint. As at that period there was no gold coin in active circulation in the United States (except on the Pacific coast), the estimate comprised only the metallic stock in the Treasury and in national banks, with an estimate of \$20,000,000 as the minimum in use on the Pacific coast.

The estimates from year to year have since been arrived at by adding to the stock of coin at that date the annual coinage, less the amount of United States coin withdrawn for recoinage. The annual gain or loss by import or export of United States coins has also been added or deducted each year, as the case may have been. There has also been an annual deduction for consumption of United States coins in the arts and manufactures. The estimates for these deductions have been based upon the four inquiries made by the Bureau of the Mint for the years 1880, 1881, 1883, and 1885 into the industrial employment of the precious metals in the United States.

The efforts of this Bureau to ascertain the stock of metallic money in the country have been solely directed to the total called for by official statistics. The estimate by this Bureau of the stock of coined money in the United States corresponds to such official data, not without consideration of, but without estimate for, the indefinite values corresponding to coin withdrawn from the country on the persons of travelers and not registered at the custom-houses, to coin subversively used, and to coin lost in vicissitudes both on sea and land.

These elements of uncertainty in estimates like the present have been discussed in previous reports. In the above estimate for the 1st July, 1887, no allowance has been made for the import or export of trade-dollars during the year, for the reason that the entire number supposed to have been in the country was eliminated from the stock of coin in the estimate of the Bureau for June 30, 1884.

The deduction for United States coin used in the arts during the year is the same as for the previous fiscal year, and according to the latest inquiry made by this Bureau—namely, for the calendar year 1885, for which the consumption was estimated at \$3,500,000 of gold and \$200,000 of silver.

The ownership of the gold and silver coins, as distinguished from the

location of the coin, estimated by this Bureau to have been in the country on July 1, 1887, is exhibited in the following table:

Ownership.	Gold coin.	Silver coin.			Total gold and silver coin.
		Full legal tender.	Subsidiary.	Total.	
Treasury .....	*\$101, 143, 478	†\$69, 365, 953	\$26, 977, 493	\$96, 343, 446	\$197, 486, 924
National banks .....	†152, 412, 379	\$9, 878, 692	2, 813, 128	12, 691, 830	165, 104, 209
Banks other than national (values specifically reported) .....	‡ 41, 698, 535	2, 422, 970	.....	2, 422, 970	44, 121, 505
Banks other than national (values not specifically reported) and in private hands .....	273, 753, 673	185, 322, 502	45, 757, 168	231, 079, 670	504, 833, 343
Total .....	569, 008, 065	266, 990, 117	75, 547, 799	342, 537, 916	911, 545, 981

\*Gold coin in the Treasury, exclusive of outstanding gold certificates ..... (\$91, 225, 437)

†Silver dollars in the Treasury, exclusive of outstanding silver certificates ..... (142, 118, 017)

‡Includes gold, Treasury, and clearing house certificates ..... (78, 318, 940)

§Includes Treasury silver certificates ..... (3, 535, 479)

|| As partially reported to Comptroller of the Currency at close of fiscal year 1887,

viz:

Gold coin ..... \$27, 015, 952

Gold certificates ..... 937, 710

Specie, miscellancons ..... 13, 744, 873

..... \$41, 698, 535 (Total taken as gold.)

Silver coin ..... 1, 824, 657

Silver certificates ..... 598, 313

..... 2, 422, 970 (Total taken as full legal tender silver.)

44, 121, 505 (Total taken as gold and silver.)

The amount of gold coin in the banks, other than national, is given as \$41,698,535, from information imparted by the office of the Comptroller of the Currency, and based upon partial returns to that office. It is not considered that these figures represent more than a fraction of the value of gold coin held by all the private and State banks and trust companies of the United States.

Of over five thousand banks, other than national, in the United States, less than two thousand made reports to the Comptroller, and by many of them the asset "cash items" is not given in detail. So far it has proved practically impossible to ascertain with accuracy the stock of coin held by banks not by law required to make official reports, but it is believed to largely exceed the figures given in the above table.

The value of the gold and silver certificates in the hands of the public has, in the above table, been deducted from the value of the coin held by the Treasury and carried to the stock of coin belonging to the public, because coin in the Treasury, applicable only to the redemption of the certificates, is practically held by the Treasury in trust for this purpose.

It has been considered an improvement to separate as in the following statement of the location of the moneys of the United States as well as of the bullion in the Treasury on the 1st July, 1887, the metallic values from the values of the representative money:

**FORM AND LOCATION OF THE MONEYS OF THE UNITED STATES AND THE BULLION AWAITING COINAGE IN THE MINTS JULY 1, 1887.**

[Exclusive of minor coin and minor-coinage metal.]

	In Treasury.	In national banks.*	In other banks and general circulation.	Total.
<b>METALLIC.</b>				
Gold bullion .....	\$85, 512, 270			\$85, 512, 270
Silver bullion .....	4, 091, 414			4, 091, 414
Silver bullion (melted trade dollars) .....	6, 364, 236			6, 364, 236
Gold coin .....	192, 368, 915	†\$98, 137, 439	\$278, 501, 711	569, 008, 065
Silver dollars .....	211, 483, 970	6, 343, 213	49, 162, 934	266, 990, 117
Subsidiary silver coin .....	26, 977, 493	2, 813, 138	45, 757, 168	75, 547, 799
<b>Total .....</b>	<b>526, 798, 298</b>	<b>107, 293, 790</b>	<b>373, 421, 813</b>	<b>1, 007, 513, 901</b>
<b>REPRESENTATIVE.</b>				
Legal-tender notes .....	‡28, 783, 796	74, 477, 342	243, 419, 878	346, 681, 016
Old demand notes .....			57, 130	57, 130
Certificates of deposit .....	310, 000	7, 810, 000	960, 000	9, 080, 000
Gold certificates .....	30, 261, 380	54, 274, 940	26, 950, 497	121, 486, 817
Silver certificates .....	3, 425, 133	3, 535, 479	138, 582, 538	145, 543, 150
National-bank notes .....	197, 046	22, 962, 737	256, 058, 005	279, 217, 788
Fractional paper currency ...	2, 366	564, 266	6, 380, 332	6, 946, 964
<b>Total .....</b>	<b>62, 979, 721</b>	<b>163, 624, 764</b>	<b>682, 408, 380</b>	<b>909, 012, 865</b>

\* The statement of the amounts in national banks is of date August 1.

† Includes \$24,044,000 clearing-house gold certificates.

‡ Includes \$8,770,000 held for the redemption of certificates of deposit for legal-tender notes under act June 8, 1872.

The following statement, based on net coinage, imports, and exports of United States coin, with pro rata reduction for consumption in the arts from the 1st July to the 1st November, approximately exhibits the stock of gold and silver coin in the United States at the date of this report:

Date.	Gold coin.	Silver coin.			Total gold and silver coin.
		Full legal tender.	Subsidiary.	Total silver.	
Last official statement July 1, 1887 .....	\$569, 608, 065	\$266, 990, 117	\$75, 547, 799	\$342, 537, 916	\$911, 545, 981
Gain subsequent to above statement (estimate) ...	5, 919, 808	10, 120, 040	210, 337	10, 330, 427	16, 250, 235
Estimate for November 1, 1887 ...	574, 927, 873	277, 110, 157	75, 758, 186	352, 868, 343	927, 796, 216

In the first report made by me—namely, for the fiscal year 1885—I reduced the estimate of my predecessor of the stock of gold coin in the United States on the 1st of July, 1884, by \$30,000,000, a reduction rep-

representing the probable amount of United States gold coin used in the arts and manufactures from July 1, 1873, to June 30, 1880. No allowance had been made for such employment in the estimates of the Bureau for the seven years from 1874 to 1880. The first allowance of this kind was made in the estimate of June 30, 1881. This was \$3,300,000 for the fiscal year 1881.

In the second fiscal report made by me—namely, for the year 1886 (see page 46)—a further deduction of \$15,669,981 from the estimated stock of gold coin in the country June 30, 1885, was made for bullion in the Treasury on the 1st of July, 1873, included in previous estimates of gold coin. I also corrected an error of \$4,654,714 in the statement of gold exports of 1874. There was thus made a reduction of \$20,324,695. This, with the previous reduction of \$30,000,000 for employment of gold coin in the arts, as explained above, made a total reduction in the estimated stock of gold coin in the United States of \$50,324,695.

I now take occasion to present revised estimates of the stock of gold coin in the United States at the close of each fiscal year since 1873, as well as of bullion in mints and in the assay office at New York and in the subtreasury at New York at those dates:

REVISED ESTIMATE OF STOCK OF METALLIC MONEY IN THE UNITED STATES  
AT THE CLOSE OF EACH FISCAL YEAR FROM 1873 TO 1887.

Date.	GOLD.				Remarks.
	Coin.	Bullion in mints.	Fine bars in sub-treasury, New York.	Total coin and bullion.	
June 30, 1873	\$119,330,019	\$15,669,981	.....	\$135,000,000	Estimate of Director Linderman.
1874	137,708,051	9,671,442	.....	147,379,493	Estimate of Director Burchard, less deductions for employment in arts and error.
1875	111,507,562	6,259,631	\$3,367,713	121,134,906	Do.
1876	120,368,683	6,320,511	3,367,713	130,056,907	Do.
1877	156,456,111	7,677,648	3,367,713	167,501,472	Do.
1878	205,704,875	7,495,102	.....	213,199,977	Do.
1879	240,466,003	5,275,834	.....	245,741,837	Do.
1880	308,633,996	40,723,426	2,483,784	351,841,206	Do.
1881	389,452,058	86,548,696	2,483,784	478,484,538	Do.
1882	450,557,490	53,700,225	2,500,000	506,757,715	Do.
1883	486,930,099	55,801,964	.....	542,732,063	Do.
1884	501,307,747	44,193,030	.....	545,500,797	Do.
1885	521,849,941	66,847,095	.....	588,697,036	Estimate of Director Kimball.
1886	548,320,031	42,454,430	.....	590,774,461	Do.
1887	569,008,065	85,512,270	.....	654,520,335	Do.

REVISED ESTIMATE OF STOCK OF METALLIC MONEY IN THE UNITED STATES  
AT THE CLOSE OF EACH FISCAL YEAR FROM 1873 TO 1877—Cont'd.

Date.	SILVER DOLLARS.			Subsidiary silver coin.	Remarks.
	Coin.	Bullion in mints.	Total coin and bullion.		
June 30, 1873	.....	\$1, 149, 305	\$1, 149, 305	\$5, 000, 000	Estimate of Director Linderman.
1874	.....	1, 592, 261	1, 592, 261	8, 763, 217	Estimate of Director Burchard, less deduc- tions for employ- ment in arts and er- ror.
1875	.....	2, 742, 548	2, 742, 548	16, 625, 447	Do.
1876	.....	3, 997, 258	3, 997, 258	32, 418, 734	Do.
1877	.....	4, 626, 921	4, 626, 921	*51, 837, 506	Do.
1878	\$8, 573, 500	7, 695, 579	16, 269, 079	*71, 778, 828	Do.
1879	35, 801, 000	5, 475, 356	41, 276, 356	*78, 249, 985	Do.
1880	63, 734, 750	5, 025, 658	69, 660, 408	*78, 862, 270	Do.
1881	91, 372, 705	3, 924, 378	95, 297, 083	*80, 087, 061	Do.
1882	119, 144, 780	3, 643, 764	122, 788, 544	*80, 428, 580	Do.
1883	147, 255, 899	4, 791, 786	152, 047, 685	*80, 960, 300	Do.
1884	175, 355, 829	4, 950, 785	180, 306, 614	175, 261, 528	Do.
1885	203, 884, 381	4, 654, 586	208, 538, 967	74, 939, 820	Estimate of Director Kimball.
1886	233, 723, 286	3, 468, 620	237, 191, 906	75, 060, 937	Do.
1887	266, 990, 117	10, 455, 650	277, 445, 767	75, 547, 799	Do.

\* Includes trade-dollars. † Trade-dollars estimated to be in the country (\$6,000,000) deducted.

PROPOSED LEGISLATION.

MINT AT CARSON.

The Mint at Carson was established by act of Congress approved March 3, 1863.

Two other mints were established about the same period, namely, at Denver, Colo., in 1862, and at Dalles City, Oregon, in 1864. The former was by act of appropriation (March 3, 1869) provided for as an assay office only, and has never been equipped for coinage. The site and edifice of the latter were donated to the State of Oregon by act of Congress March 3, 1875, after an expenditure of \$103,280 for building.

In order to determine the coinage needs of the United States at that period it will be well to inquire what was the coinage of the United States for the period of four years ending December 31, 1865, as well as the product of the precious metals for the same period. This is exhibited by the following statement:

STATEMENT OF PRODUCTION AND COINAGE OF GOLD AND SILVER IN THE  
UNITED STATES FROM 1862-1865, INCLUSIVE—CALENDAR YEARS.

Years.	Production.			Coinage.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
1862.....	\$39, 200, 000	\$4, 500, 000	\$43, 700, 000	\$20, 875, 997. 50	\$1, 252, 516. 50	\$22, 128, 514. 00
1863.....	40, 000, 000	8, 500, 000	48, 500, 000	22, 445, 482. 00	809, 287. 80	23, 254, 769. 80
1864.....	46, 100, 000	11, 000, 000	57, 100, 000	20, 081, 415. 00	609, 917. 10	20, 691, 332. 10
1865.....	53, 225, 000	11, 250, 000	64, 475, 000	28, 295, 107. 50	691, 005. 00	28, 986, 112. 50
Total..	178, 525, 000	35, 250, 000	213, 775, 000	91, 698, 002. 00	3, 362, 728. 40	95, 060, 728. 40

This coinage was all executed at the mints at Philadelphia and San Francisco.

The mints at New Orleans, Charlotte, N. C., and Dahlonega were suspended in 1861 and throughout the entire period of the war of the rebellion. The site and building of the mint at Dahlonega were bestowed by act of Congress (April 20, 1871) upon the trustees of an agricultural college.

It was during the same period, when two mints in the Southern States were suspended, that acts of Congress were approved providing, as above stated, for two mints on the Pacific coast in addition to the mint at San Francisco, and a third at Denver, Colo. Of the three mints thus newly created by acts of Congress, the mint at Carson is the only one that has been provided for by subsequent legislation in conformity to the provisions of the original act.

It becomes my duty to show that the mint at Carson is at the present time, and that from the first it has been, an unnecessary extension of the mint service of the United States.

I shall, accordingly, proceed to exhibit, by reference to United States documentary evidence, first, certain representations made to the House of Representatives in support of the original measure before Congress for the creation and establishment of this mint; second, its operative history as a mint; and, third, its performance since 1885, while in operation as an assay office with an acid refinery. In that year coinage was suspended for reasons which, although stated in previous reports of this series, I shall take occasion to repeat for the sake of completing the record of this mint for the information of Congress.

The original bill to establish an assay office at Dalles City, Oregon, in 1864, included a similar provision for Carson City, Nevada, notwithstanding the passage of an act by the previous Congress establishing a mint at the latter city. The bill before the Thirty-eighth Congress to establish additional assay offices gave rise to a protracted debate, in the course of which appear the arguments and representations for and against the extension of minting facilities beyond what were then afforded by the mints at Philadelphia and San Francisco.\*

Both the Director of the Mint and the Secretary of the Treasury expressed their disapprobation of any such extension.†

By the former officer, under date of February 6, 1864, it was held "not to appear expedient to increase the number of our coinage establishments."

In communicating with his concurrence the views of the Director, Secretary Chase (February 20, 1864) recommended that "so much of existing laws as authorizes coinage, except at great commercial centers, be repealed."‡

The communications above referred to were presented to the Senate by the chairman of the Committee on Finance with the following remarks:§

"At the last session of Congress, I think, we authorized the establishment of a mint in Nevada. Nothing has been done with reference to the erection of a mint there, and the Secretary recommends that we repeal the law. \* \* \* We formerly had a mint in Georgia, and one in North Carolina; but they were found always to be expensive and useless, and repeatedly an attempt was made to repeal them, but that could not be done, owing to certain causes. In connection with this subject is a petition requesting the enlargement of the branch mint at San Francisco."

\* See Congressional Globe, 1864, pp. 1383, 1772, 1946, 1952.

† *Ibid.*, pp. 1773, 1947.

‡ *Ibid.*, p. 1946.

§ *Idem.*

Statements contained in a petition from the superintendent of the branch mint at San Francisco and others induced the Secretary of the Treasury to recommend an appropriation to afford increased minting facilities in San Francisco.

The chairman of the Committee on Finance, speaking for his committee, on the same occasion remarked that taking the recommendations of the Secretary into consideration in connection with each other they could come to no other conclusion than that the wise course would be to enlarge the minting facilities at San Francisco as desired, and to establish an assay office at Portland or some other place in Oregon, as recommended by the Secretary of the Treasury himself. There was no difference of opinion in the committee, and it was thought unanimously that this was the advisable and proper course to take.\*

In the course of this debate the alternative was discussed of substituting for the mint at Carson, provided for by act of the preceding Congress, an assay office in that city. But the original bill before being passed was finally amended so as to provide for a mint instead of an assay office at Dalles City; thus, as expressed in debate, leaving "Nevada and Oregon upon precisely the same footing."

The act establishing a mint at Dalles City was virtually repealed by Congress some eleven years afterwards (March 3, 1875).

The bill to establish a branch mint in Nevada, introduced into the House of Representatives and recommended for consideration by the Secretary of the Treasury, passed that House without debate after being reported by the Committee on Ways and Means March 3, 1863.

On the same day, and, it will be noticed, toward the close of the session, the same bill was considered in the Senate, and there, without being referred to any committee, and after a short debate, in which the bill was opposed by the chairman of the Committee on Finance, was passed.

Accompanying this bill was a report prepared by a member of the Committee on Ways and Means of the House of Representatives, and apparently its chief advocate before the Committee of the Whole. The substance of this report was also represented to the Senate in behalf of the same measure.

This report, as quoted in the Senate, stated that the estimated yield of gold and silver in Nevada at that time was \$2,000,000 per month, making \$24,000,000 per annum. The yield of gold and silver, in the opinion of a Senator, was nearer \$3,000,000 than \$2,000,000 per month.

According to the best statistics for that period at the present time available, the mines of Nevada yielded in 1860 some \$100,000† of gold and silver; in 1861 less than \$2,300,000; and in 1862 less than \$6,500,000. It was not till nine years later (1872) that the yield of the mines of Nevada reached the estimate of the report, nor till ten years later that the maximum estimate offered to the Senate was reached, while it is a well-known fact that from about this period the gold and silver production of the Territory has fallen to about \$8,000,000.

The report [as stated in the Senate] further goes into the cost of transporting the bullion from the mines of Nevada to the branch mint of San Francisco, which is the nearest point where the gold and silver can be deposited for coinage, and it shows that it amounts to a tax of from 5 to 6 per cent.; that the returns are received in about thirty days, with an additional cost of 2 per cent. in carrying back the coin, making an actual tax of about 7 per cent. on the gold production of the Territory of Nevada.

\* Congressional Globe, 1864, p. 1947.

† Incorrectly cited from U. S. Commissioner as \$1,000,000, in Monograph of U. S. Geological Survey, 1883, p. 416.

The report goes on to say:

The transportation of silver is still more expensive. The bullion used in commerce can be shipped abroad in that shape as well if not better than in coin. The coinage of the amount that would find its way out of the Territory in payment of supplies and transportation it is believed will reach at least half a million per annum.\*

These statements were offered as the pith of the report made by the Committee on Ways and Means.

It was urged in the Senate that the heavy tax upon producers in Nevada, the wonderful increase of gold and silver bullion, and the necessity of keeping it in our own country by coining it ourselves, were to be considered sufficient inducements, as they had been before, for Congress to order the establishment of a mint.

A reference to the following statement of the production of the mines of Nevada from 1860 will show the exaggeration of the estimates of the product of the Territory for the period when these estimates were offered, and will also serve to indicate the steps by which the actual production reached its maximum in 1878 and the steps by which it has since declined.

According to Commissioner J. Ross Browne all but 5 or 6 per cent. of the product of Nevada was, during the eight years ending in 1866, from the mines of the Comstock Lode, the main part of whose product has ever since been forwarded to San Francisco for refining and coinage.

For the years 1868 to 1875, inclusive, the production credited each year is taken from the special reports of the Commissioner of Mining Statistics, and for the following years from the revised estimates of this Bureau.

As the estimate for 1876 to 1879 inclusive is for fiscal years, the product for the last half of 1875 is estimated a second time, and that of the last half of 1879 not estimated at all.

It will thus appear that the production of gold and silver, beginning about 1861, when it approximated \$2,000,000, increased rapidly, owing to the very rich deposits found in the Comstock Lode, until it had reached in the year 1863 some \$12,500,000. In 1878 the State was credited with a production of nearly \$48,000,000. But from this date the production declined rapidly, having fallen off in the following year to some \$21,500,000, in 1881 to some \$9,300,000, and in 1886 to about \$8,000,000.

PRODUCTION OF THE MINES OF NEVADA FROM 1860 TO 1886.

Years.	Gold.	Silver.	Total.
1860.....			\$100, 000
1861.....			2, 275, 000
1862.....			6, 500, 000
1863.....			12, 500, 000
1864.....			16, 000, 000
1865.....			16, 800, 000
1866.....			16, 500, 000
1867.....			20, 000, 000
1868.....			14, 000, 000
1869.....			14, 000, 000
1870.....			16, 000, 000
1871.....			22, 500, 000

\* Cong. Globe, 37th Cong., 3d session, p. 1499.



## PRODUCTION OF THE MINES OF NEVADA FROM 1860 TO 1886—Continued.

Years.	Gold.	Silver.	Total.
1872.....	*\$8,000,000	*\$17,500,000	\$25,500,000
1873.....	*10,000,000	*25,250,000	35,250,000
1874.....	*10,000,000	*25,450,000	35,450,000
1875.....	12,140,000	28,338,000	40,478,000
1876.....	*13,750,934	*28,000,000	41,750,934
1877.....	18,000,000	26,000,000	44,000,000
1878.....	19,546,514	28,130,350	47,676,864
1879.....	9,000,000	12,560,000	21,560,000
1880.....	4,800,000	10,900,000	15,700,000
1881.....	2,250,000	7,060,000	9,310,000
1882.....	2,000,000	6,750,000	8,750,000
1883.....	2,520,000	5,430,000	7,950,000
1884.....	3,500,000	5,600,000	9,100,000
1885.....	3,100,000	6,000,000	9,100,000
1886.....	3,090,000	5,000,000	8,090,000
Total .....	121,697,448	237,968,350	516,840,798

\* Division between gold and silver based on estimated returns of following years.

The product of the Comstock Lode for the same years was as follows:

## PRODUCT OF THE COMSTOCK LORE FROM 1860 TO DECEMBER 31, 1886.

Year.	Authority. *	Gold.	Silver.	Total.
1860.....	United States Commissioner of Mining Statistics.....			\$100,000
1861.....	do .....			2,275,256
1862.....	do .....			6,247,047
1863.....	do .....			12,486,238
1864.....	do .....			15,795,585
1865.....	do .....			15,184,877
1866.....	do .....			14,167,071
1867.....	do .....			13,738,618
1868.....	do .....			8,499,769
1869.....	do .....			7,528,607
1870.....	do .....			8,319,698
1871.....	United States Monetary Commission, 1877.....	\$4,077,027	\$6,230,587	10,307,614
1872.....	do .....	6,310,035	6,611,943	12,921,978
1873.....	do .....	10,493,796	11,037,023	21,530,819
1874.....	do .....	12,579,825	11,881,000	24,460,825
1875.....	do .....	11,739,873	14,492,350	26,232,223
1876.....	do .....	18,002,906	20,570,078	38,572,984
1877.....	Report of John A. Church.....			34,793,488
1878.....	do .....			19,876,034
1879.....	State tax list .....			7,477,591
1880.....	Director of the Mint .....	3,323,840	3,084,142	6,407,982
1881.....	do .....	1,050,000	660,000	1,710,000
1882.....	do .....	920,000	860,000	1,780,000
1883.....	do .....	1,600,000	900,000	2,500,000
1884.....	do .....	2,150,000	1,275,000	3,425,000
1885.....	do .....	1,915,700	2,131,400	4,047,100
1886.....	do .....	2,064,710	2,328,290	4,393,000
Total .....		76,227,712	82,061,813	324,779,404

The production of gold and silver reported separately amounts to \$158,289,525; adding to this \$166,489,879, not separated, gives a total production of \$324,779,404.

In 1863 the cost of transportation from the mines and mills of Nevada, with which the producer of bullion was taxed before it could be returned in coin, was represented as one of the most important reasons for the establishment of a mint in that Territory.

The cost of transporting bullion from the mines to the mint at San Francisco was stated in the report of the Committee on Ways and Means, above referred to, as 5 to 6 per cent. of its value, and 2 per cent. additional for return of coin.

It will be my duty to show that the conditions of transportation, as well as the conditions of the production of the precious metals, have since changed in Nevada, and especially that while in that State railway facilities have been increased, the production of gold and silver has greatly declined in importance.

It will also be shown that the mint at Carson has at no period of its history received considerable deposits from the mines of the Comstock Lode, their product having continued to be sent to San Francisco for coinage, the same as before the establishment of that mint.

It will appear, indeed, that very important considerations, now affected by the cost of transportation of bullion, specie, and currency to and from Carson, are most unfavorable to the operations of coinage at the mint, and even to the minor operations of an assay office now carried on at that institution.

The mint at Carson was opened for business January 8, 1870.

Carson is on the line of the Virginia and Truckee Railroad, 34 miles from Reno, on the Central Pacific Railroad, and 300 from San Francisco, and some 14 miles from Virginia City—the location of the great mines of the Comstock Lode. Its population as given by census for 1880 was then 4,229.

Substantially the whole product of these mines, instead of being transported south this short distance to Carson for parting and refining and coinage, or in the case of silver at present for conversion into bars, has always been shipped directly to San Francisco for parting and refining, for coinage of all the gold, and for as much of the silver as required by considerable, and often large, demands from the mint at that city for coinage of dollars.

As the product of the Comstock Lode down to the year 1881 has constituted some seven-tenths of the gold and silver product of the whole State, it now remains to account for the disposition of the other three-tenths, no small part of which has been reported from Storey County, exclusive of Virginia City, and from the neighboring counties—Lyon, Washoe, and Ormsby. From these four counties, and perhaps occasionally from the Bodie district, substantially the whole of the deposits of the mint at Carson have been derived.

The subjoined table of deposits and coinage at the mint at Carson from 1870, taken in connection with the following table of the production of the mines of Storey and Lyon Counties from the same year to the close of 1886, will serve to show how small has been the aggregate of deposits at that mint in comparison with the volume of the precious metals forwarded from the same section to San Francisco for refining and further disposition.

## DEPOSITS AND COINAGE AT THE MINT AT CARSON FROM ITS ORGANIZATION.

Year.	Deposits, by fiscal years.			Coinage, by calendar years.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
1870.....	\$124,154.44	*\$28,262.16	\$152,416.60	\$173,235	\$41,855.50	\$215,090.50
1871.....	1,003,809.60	*1,290,634.85	2,294,494.45	469,440	76,083.50	545,523.50
1872.....	4,371,573.55	*4,192,863.14	8,564,436.69	732,900	143,825.00	876,725.00
1873.....	5,004,536.69	*4,243,320.66	9,247,857.35	530,710	302,564.60	833,274.60
1874.....	2,213,041.96	12,875,116.82	5,088,158.78	2,575,360	1,403,781.70	3,979,141.70
1875.....	2,540,057.59	13,030,910.73	5,570,968.32	2,359,310	2,603,858.00	4,963,168.00
1876.....	3,175,046.92	15,049,290.04	8,224,336.96	2,850,215	3,552,000.00	6,402,215.00
1877.....	1,738,298.28	13,653,630.80	5,391,929.17	928,020	3,062,000.00	3,990,020.00
1878.....	737,719.85	2,447,279.50	3,184,999.44	341,310	2,609,000.00	2,950,310.00
1879.....	318,852.71	1,020,660.24	1,339,512.95	318,185	736,000.00	1,074,185.00
1880.....	368,174.51	622,291.88	990,466.39	366,985	591,000.00	957,985.00
1881.....	517,571.62	590,805.03	1,108,376.65	303,580	296,000.00	605,580.00
1882.....	1,016,966.05	1,003,369.24	2,020,335.29	1,264,525	1,133,000.00	2,397,525.00
1883.....	1,472,802.16	1,293,398.77	2,766,200.93	1,384,030	1,204,000.00	2,588,030.00
1884.....	1,451,819.72	958,732.41	2,410,552.13	1,804,040	1,136,000.00	2,940,040.00
1885.....	1,505,665.23	1,159,138.49	2,664,803.72	189,000	228,000.00	417,000.00
1886.....	12,938.21	992.57	13,930.78	.....	.....	.....
1887.....	107,671.28	70,930.43	178,601.71	.....	.....	.....
Total.....	27,680,700.37	33,531,677.94	61,212,378.31	16,596,845	19,138,968.30	35,735,813.80

\* For unparted bars.

† For Trade-dollars.

‡ For subsidiary coinage.

## \*PRODUCTION OF LYON AND STOREY COUNTIES, NEVADA, FROM 1870 TO 1886, INCLUSIVE.

Years.	Gold.	Silver.	Total.
1870.....	.....	.....	\$8,319,700
1871.....	.....	.....	11,172,964
1872.....	.....	.....	13,569,724
1873.....	.....	.....	18,649,485
1874.....	.....	.....	22,400,783
1875.....	.....	.....	26,396,722
1876.....	.....	.....	34,217,794
1877.....	.....	.....	34,900,635
1878.....	.....	.....	36,387,981
1879.....	.....	.....	9,801,249
1880.....	\$3,347,613	\$3,230,963	6,578,576
1881.....	1,050,000	660,000	1,710,000
1882.....	920,000	860,000	1,780,000
1883.....	1,645,000	970,000	2,615,000
1884.....	1,900,000	1,450,000	3,350,000
1885.....	2,000,000	2,300,000	4,300,000
1886.....	2,158,604	2,496,000	4,654,604
Total.....	.....	.....	240,805,217

\*Statement for 1870-1875 from Reports of Special Commissioner of Mining Statistics; for 1876-1886, Reports of Director of the Mint.

The above statements of production of gold and silver in the same section of country in relation to which the city of Carson is centrally located, taken in comparison with the returns from the mint at that city, sufficiently indicate the small importance of this institution to the mining and milling industries of Nevada either during so much of the period of their prosperity as this mint was open, or during the more recent period of their decline.

The fact above indicated is in general terms due to the geographical location of the mint, which, although near a great mining center, has proved to be far from a bullion center in the strict or commercial sense of that term. That it has never been able to divert from San Francisco, Comstock and other bullion, reduced from the native product, to the extent of its working capacity, is principally due to ordinary considerations of expediency on the part of the local producer, and to the broad fact that an immediate disposition of large values of gold or silver in coin or bars could at all times be made at San Francisco to greater advantage than at Carson.\*

The expediency to the large producer of gold bullion in Nevada, as between the alternative of depositing at the mint at San Francisco or at the mint at Carson, closer at hand, is determined, first, by the cost of transportation, usually by express. Expediency is further in favor of the mint at San Francisco from the circumstance that returns by draft are at once available for supplies and general use, and from the circumstance that San Francisco has always offered superior facilities for parting by private refineries as well as by the mint at that city. One of the most important of such facilities is a ready market for silver bars over and above the limited demand for coinage.

The depositor at Carson is, on the other hand, called upon to transport his bullion to that point and to receive back, usually by express, the value in coin, the excess of which over his local requirements has, as a rule, by a separate transaction, to be forwarded to bank at San Francisco for general use as capital. Or, again, silver bars in excess of coinage requirements at Carson, and in such case not purchased by that mint, are returned in kind to the depositor, when, as a rule, their immediate disposition is transportation to market at San Francisco.

It is here proper to remark that, as a matter of fact, during the period of greatest activity at the mint at Carson the purposes and wishes of the depositor were regarded as far as practicable by payment in cash at his option in draft on San Francisco or New York for silver bullion purchased. Valuable concessions of this kind to the depositor of bullion in Nevada have been made from time to time for the benefit of the mint at Carson.

On the part of the Government the expediency of coinage at the mint at San Francisco as compared with the mint at Carson is determined—

First, by the excess in cost of material laid down at Carson corresponding to the cost of transportation over and above the cost at San Francisco.

Second, by the greater cost of transfer of coin to the United States Treasury or its branches, and by actual cost of transfer of other public

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\* "Notwithstanding the fact that the mint at Carson City is located but a short distance from the productive mines of the Comstock lode, higher prices were demanded for bullion deliverable at Carson than at San Francisco, and, in addition, the rates charged by the express company for transportation of silver dollars were higher from Carson than from San Francisco."—Annual Report of the Director of the Mint, fiscal year 1879, p. 8.

moneys to the extent that United States Treasury drafts are drawn in payment of deposits, for the reason that coin at the mint not returned to the depositor is ultimately transferred at the cost of the Government to the United States Treasury, a sub-treasury, or public depository.

The requirements for silver coin on the part of regular depositors at the mint at Carson have been practically limited to local purposes, or mainly to what was paid out in cash for labor—and in most cases much less than the labor accounts of mines and mills, for the reason that large proportions of these accounts have as elsewhere been settled in goods, bought in the East or San Francisco and paid for by draft through San Francisco.

This is still the only regular local requirement for coin, and the practical limit of distribution of either gold or silver coin from the mint at Carson. Under the existing conditions of the mining and milling industries of that section of country, the local requirements for coin have become so greatly diminished that but little gold can be expected for deposit, inasmuch as the avails of silver partings from gold bullion, and likewise purchased for coinage by all mints and assay offices, tend equally with payments for gold, to meet local requirements for disbursements of coin.

The express charges for transporting silver coin from the mint at Carson to points east of the Rocky Mountains have been from \$10 to \$14 per \$1,000, except in the case of a special contract for the transfer of some 3,000,000 silver dollars to the United States Treasury at Washington in 1885.

The following statement exhibits the value of silver dollars coined at the mint at Carson from 1878 to the suspension of coinage in 1885, together with the value of the silver dollars actually paid out, and so distributed.

Coined .....	\$7,575,288
Transferred to Treasury .....	3,118,072
Distributed .....	4,457,216
Annual average distribution .....	636,745

For the first three years of operations at the mint at Carson, from 1870 to 1872 inclusive, a considerable volume of silver was deposited for unparted bars. From 1873 to the middle of 1875 large deposits of silver were made for trade-dollars, many of which passed into local circulation. For the coinage of subsidiary silver coin at this mint in 1876 and the following year comparatively large purchases of silver were made. Since that time all silver coinage has consisted of standard dollars, the monthly capacity of the mint for this kind of coin being some 200,000. All of the silver coined at this mint has been deposited in an unparted state. The deposits of gold, therefore, correspond in amount to the relative proportion of this metal contained in unparted deposits known as doré bullion.

If special purchases of unparted silver bullion be undertaken for continued coinage of silver dollars at Carson, it is extremely doubtful whether it can as a rule be bought at current rates, as now the case at San Francisco for the limited requirements of the mint at that city. These rates are generally somewhat below the rates current in the Eastern States. And it is also doubtful whether offerings of silver bullion for delivery at Carson would in the future be any more regular, or purchases be attended with fewer difficulties than formerly when required for a stated coinage of dollars at the mint at that point.

If on the other hand proposals for the delivery of silver bullion at Carson be accepted according to the ruling of the Secretary of the

Treasury on the recommendation of the Treasury Commission in October, 1878, only at a rate of one cent an ounce below parity of London rate, or at any rate less than current rates in San Francisco, it cannot be expected that any regular supply of silver for the mint at Carson can be secured.

Coinage of silver dollars at Carson, from bullion there delivered at any reasonable or practicable rate, will, as already shown, be subject to a much higher cost of manufacture at the mint at Carson as compared with the cost at Philadelphia, New Orleans, and San Francisco; and also to the ultimate additional cost of transfer to San Francisco or Washington, except to the very small extent that silver dollars may be received in payment for silver purchased at the option of the seller or depositor of unparted bullion.

It will thus be seen that the conditions of distribution of coin from the mint at Carson, which, even in the flourishing period of the mining and milling industries of the neighboring section of Nevada, so operated as to narrowly limit its output to the local requirements, are now far less favorable, owing to the contraction of these local industries during the last seven years.

The requirements of the coinage of standard silver dollars under mandatory provisions of law are such, that regularity in purchases of silver at any given mint occupied with its coinage is indispensable. At no time since the mint at Carson has been called upon to contribute a stated monthly output of dollars by way of supplement to the larger production of the mints at Philadelphia and New Orleans has it been practicable to depend on deposits of silver without additional purchases for this purpose.

Purchases for the mint at Carson by the Commission at this Department were seldom without difficulty in procuring the necessary quantity at reasonable rates. So great had this difficulty become in 1879, that coinage was suspended at Carson from March 1 of that year to June 30, and from November 1 of the same year to May 1, 1880, and again from April to October in 1881. This period was about the beginning of the decline of production of the Comstock Lode.

The cost per piece of coinage at the mint at Carson when mainly occupied with double eagles and silver dollars was 7.28 cents in 1884 and 9.13 cents in 1885, against 1.55 in 1884 and 1.49 in 1885 at the mint at New Orleans—the two mints being occupied with about the same class of coinage.\*

On February 26, 1879, the authority, which had been given to the mint at Carson, to purchase silver bullion in lots of less than ten thousand (10,000) ounces was revoked, on account, as stated, of the difficulty of procuring silver bullion for delivery at that mint at reasonable rates, and of the high rates demanded by the express companies for transporting coin.

Instructions were at the same time given for the coining into silver dollars of the stock of silver bullion then on hand, and for reduction of the force of workmen, assistants, and adjusters to such number as would enable that mint to manipulate such gold bullion only as should be in future deposited, and to refine such silver bullion as should be deposited for return in fine bars.†

These instructions were communicated by the Acting Director of the Mint with the written approval of the Secretary of the Treasury.

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\* See Report of the Director of the Mint, 1885, p. 13.

† See Report of the Director of the Mint, 1879, p. 8.

Assistant Secretary French, United States Treasurer Wyman, and Director Burchard, constituting the Treasury Commission for the weekly purchase of silver, recommended acceptance of offers for the sale of silver to be delivered at Carson only when the rates were such that the cost of transferring the resulting coin, added to the price of bullion, would not exceed the cost at the mints at Philadelphia and New Orleans.

On March 8, 1885, the superintendent, Mr. James Crawford, died. Business was suspended and the mint closed, pending appointment and qualification of a successor, until April 1, when a new superintendent and new coiner assumed office.

March 28, the balance of the regular appropriation for "wages of workmen" being but \$7,200 for four months' operations, the Director of the Mint, with the approval of the Secretary of the Treasury, ordered the suspension of coinage (which had not been resumed) for the remainder of the fiscal year 1885; also, that the force of clerks, workmen, etc., be reduced to the lowest possible limit. The receipt of bullion for "parting and refining," and local purchases of silver for the standard dollar coinage, however, were allowed to continue.

May 8, by Department order, the superintendent at Carson was instructed to discontinue the purchase of silver bullion until further notice.

May 30 the Secretary of the Treasury authorized the Treasurer of the United States to instruct the superintendent of the mint at Carson, as well as assayers in charge of the United States assay offices other than at New York, that thereafter funds to be used by them for the purchase of bullion would be placed with the assistant treasurers at New York and San Francisco.

June 11 the Secretary further directed that no silver be purchased, except silver "parted" from gold and deposits of mutilated United States coin, and also that a charge be imposed on deposits of gold bullion to cover transportation to the mint at San Francisco.

August 14 the coiner, for want of occupation, was suspended by the President.

November 6 it was ordered that the mint at Carson be closed to receipt of deposits, and that clerks, assistants, and workmen be discharged.

November 16 the melter and refiner and the assayer were suspended by the President.

The falling off of the business of the mint at Carson, which led to the closing of that institution, will, in connection with the above statement, be exhibited by the fact that during the first three months of the fiscal year 1886 the deposits of gold at that institution had fallen to 518 standard ounces, from 23,333 standard ounces for the corresponding period of 1885.

It having been urged upon this Bureau that the prospects for business had become so greatly improved as to justify the reopening of the mint, I undertook to solicit, through Superintendent Garrard, from parties most interested in such a measure, some guaranty which might justify the Department in carrying out the recommendations looking to that end on the footing, at least, of an assay office.

The estimate by the Department for the expenditures of the mint at Carson was for an amount sufficient alone for the proper custody of the building and its contents. But no such appropriation having been reported in the legislative, executive, and judicial appropriation bill, I took occasion, on 5th June, to submit the proposition whether it would not be well to suggest for the consideration of Congress an appropria-



tion the same as that for the previous fiscal year. This was in view of the fact that representations had been made to the Bureau of the Mint of the readiness on the part of certain producers of bullion to deposit the same at the mint at Carson instead of sending it to private refineries, on condition that certain benefits, which it was claimed are conferred by the law, but which during the year 1885 had been withdrawn from that institution in common with some others by the action of the Department, were restored.

The recommendation was made especially in view of the fact that the omission of the usual appropriation for the mint at Carson would deprive that institution of the means to reopen either for the receipt of bullion or for coinage operations, if in the course of the year, at the discretion of the Department, it should be deemed expedient.

I took occasion also to say that it was doubtless true that the cessation of deposits at the mint at Carson was largely due, first, to the payment of all depositors by draft instead of in cash; and, second, to the collection of a transportation charge from depositors for the cost of transportation of refined bullion to the mint at San Francisco by express.

Up to the close of the fiscal year no guaranty could be obtained which seemed to justify, in the opinion of the Bureau, the resumption of operations at that mint even on a reduced scale.

Since the close of the fiscal year, however, representations have been made to this Bureau to show the existence of such conditions as might reasonably be expected to provide business for this mint conducted as an assay office. And claims have been urged on the Department of the right of producers within reach of this mint to deposit their bullion and to receive payment therefor in current funds.

In recognition of such claims it was decided to reopen this mint to depositors, and to provide for the payment of deposits in current funds. (Extract from Annual Report of the Director of the Mint for 1886, p. 30.)

The only tangible proposition looking to a considerable or regular supply of silver bullion at Carson for coinage up to a stated quota of silver dollars has been on the part of a producer whose deposits were the largest during the period of the more active coinage operations at that mint. This proposition was for the delivery at Carson of silver partings at San Francisco rates, on the further condition that payments for both gold and silver be by remittance of United States Treasury draft on San Francisco, or otherwise, at the cost of the mint.

Such an arrangement would be in favor of the depositor and against the mint by at least the cost of transportation to San Francisco at \$3.80 per 1,000 ounces for silver bullion (or about \$3 per \$1,000), and from \$1.50 to \$2 per \$1,000 on gold coin. The further effect of an arrangement of this kind would be to stop even the least distribution of silver dollars from the mint itself, thus throwing upon the mint the whole burden of their transfer to San Francisco or Washington.

#### OPERATION OF THE MINT AT CARSON AS AN ASSAY OFFICE.

The mint at Carson has at the present date been in operation more than a year as an assay office of the first class on the same footing as the assay office at New York—that is, with the adjunct of an acid refinery.

The representations made to this Department, and on the strength of which the mint was opened for deposits in October, 1886, have not since been borne out, notwithstanding the exercise by the depositor of gold bullion of every right which belonged to him before coinage oper-



ations were suspended. Silver deposits only could not be received in unlimited quantity except for parting and return of silver in bars.

During the last year, as before, unparted gold bullion has been deposited for coin, and the silver partings have been purchased for cash to the extent of the supply of such bullion, which has, however, apparently kept within the requirements for local industrial disbursements. These have become less with the prevailing decline in local mining and milling industries.

Disbursements for deposits have been largely made in cash, which has been provided at a cost to the Treasury of \$3 per \$1,000 for transfer of coin from San Francisco.

The following statement exhibits the operations for the year ending October 1, 1887:

Character.	Standard ounces.
Gold deposited and parted.....	\$8,407.782
Silver purchased.....	42,496.29
Silver parted (and purchased).....	1,520.34
Silver deposited.....	34,983.06

From the above statement it is obvious that the convenience at present afforded by this mint to a few local depositors is, on the basis of the operations of the mint at Carson for the past twelvemonth, at a cost to the mint as high as 18 per cent. of the value of the deposits. Esteemed as the convenience may be by the local depositor of small values of gold bullion, it has been shown that this convenience is of comparatively little importance to the regular producer, whose general business is conducted at San Francisco, where a market is found at current rates for silver partings, independent of only occasional requirements of the mint at that city.

The facts above, stated in as brief a manner as warranted by the importance of the subject, tend to prove that the mint at Carson, although, at the time of its establishment at least, not far from the most important mining center in the Republic, has never since proved to be a bullion center like San Francisco or New York, either in the commercial or technical sense of that term. Coinage operations at that mint, begun in 1870, have been since attended with but little further advantage to the citizens of Nevada than what has sprung from the increase of local business incidental to its operations, and from the employment offered to labor.

The producer of bullion in Nevada, for whose supposed benefit this institution was established, has as a rule found it for his own interest to deposit his bullion at San Francisco rather than at home. The mint service, which was also presumed to be benefited by the establishment of this mint, has gained nothing from its operations, all of which could have been, as still they can be, conducted to greater advantage at other mints.

While the cost of coinage is some five times that of the same kind at other mints, so as to have been found prohibitory, the net cost to the mint of alone receiving and parting deposits of bullion under the same provisions of law and regulation as in the case of all other mints and the assay office at New York, has proved not less than 18 per cent. of the spot value of the deposits, a cost, as held by this Bureau, also prohibitory.

Under the circumstance that Congress made its usual annual appro-

priations for the support of the mint at Carson for the present year, after the Committee on Appropriations of the House of Representatives had advisedly omitted to report any, except for care of building and machinery, the authority of Congress was virtually given for the continued operation of that mint during the present year. The Bureau therefore has found no reason to seek other authority, if such there be, for suspending operations, so clearly proved to be against common expediency, public interests, and ordinary principles of administration.

No recommendation to Congress has been practicable by way of estimates on my part for another year, for the continuance of operations at the mint at Carson.

Under the circumstances above set forth, the same at present as in the past, and as likely to be in the future, it becomes my duty to recommend for the good of the mint service that the mint at Carson be finally closed, that its machinery and other equipment be distributed among the several mints and assay offices, and that the building be applied to some other public purpose.

#### ASSAY OFFICE AT SAINT LOUIS.

Under the requirements of the act of February 1, 1881, the Secretary of the Treasury was authorized to establish an assay office at Saint Louis and to set apart sufficient room for its business in the Government building used for a post-office and custom-house in that city.

Suitable rooms were set apart in the building referred to and fitted up with the necessary fixtures and apparatus. During the repair of the Government building the assayer has been authorized to rent suitable accommodations in an adjoining building at an annual rental of \$480.

Whatever may have been the purpose in establishing an assay office in Saint Louis, this institution has failed to be of any considerable practical benefit to the mint service. Not being located in a mining section, it has likewise proved of little practical advantage to the mining industry of the United States.

The following table shows the business of the United States assay office at Saint Louis since its establishment:

Fiscal year.	Deposits.						
	Gold.			Silver deposited for bars and con- tained in gold deposits.			Total gold and silver.
	New bullion.	Jewelers' bars, old coin, etc.	Total.	New bullion.	Jewelers' bars, old coin, etc.	Total.	
1882.....	\$185. 23	\$6, 000. 69	\$6, 185. 92	\$20. 95	\$757. 92	\$778. 87	\$6, 964. 79
1883.....	4, 483. 18	21, 252. 30	25, 735. 48	4, 984. 02	2, 067. 17	7, 051. 19	32, 786. 67
1884.....	10, 698. 05	42, 557. 22	53, 255. 27	117. 99	5, 106. 77	5, 224. 76	58, 480. 03
1885.....	30, 281. 73	63, 415. 79	93, 697. 52	361. 33	7, 349. 02	7, 710. 35	101, 407. 87
1886.....	67, 566. 64	51, 667. 32	119, 233. 96	2, 192. 38	5, 703. 68	7, 896. 06	127, 130. 02
1887.....	55, 237. 43	50, 883. 73	106, 121. 16	1, 699. 80	3, 451. 24	5, 151. 04	111, 272. 20
Total.	168, 452. 26	235, 777. 05	404, 229. 31	9, 376. 47	24, 435. 80	33, 812. 27	438, 041. 58

Fiscal year.	Earnings.	Expenditures.	Percentage of expenditures to deposits.
1882.....	\$111.16	*\$11,880.65	.....
1883.....	414.32	5,372.03	.....
1884.....	676.82	5,338.51	.....
1885.....	783.65	6,500.01	.....
1886.....	703.67	5,381.43	.....
1887.....	696.28	5,339.30	.....
Total .....	3,385.90	39,811.93	†9.1

\* Includes \$6,896.11 for fixtures.

† Average.

It will be noticed that the value of the deposits during the six years ended June 30, 1887, was \$438,041.58, of which the sum of \$260,212.85 consisted of deposits of old jewelry, old coin, and miscellaneous material, and only \$177,828.73 of new bullion of domestic production. About 60 per cent. of all the deposits consisted of old material of the class mentioned, and only 40 per cent. of new bullion.

The expenses of this assay office during the six years in question have been \$39,811.93. Its maintenance has been at a cost of about 9 per cent. of the value of all the deposits, and over 20 per cent. of the value of its deposits of new bullion of domestic production. Its present annual expenditures are about 5 per cent. of the value of the total deposits, and about 10 per cent. of the value of its deposits of new bullion.

This does not include the cost on the part of the Government of shipping the deposits to the mint at Philadelphia for refining and coinage.

In compliance with a Senate resolution of February 27, 1875, requesting information in relation to the establishment of a branch mint in the Western States or the (upper) Mississippi Valley, a message from the President of the United States was communicated to the Senate January 6, 1876.\*

On February 19, 1880, the Committee on Coinage, Weights, and Measures, to whom had been referred the various bills for further mint facilities, as well as for the establishment of new mints, made a report (No. 267) to accompany bill H. R. 2946. The same committee, to whom had been referred bill H. R. 6025, reported May 18, 1880,† in favor of the establishment of an assay office at Saint Louis, which was accordingly established by act of Congress approved February 1, 1881.

Good and cogent as some of the reasons may have been when originally urged in favor of the establishment of a mint at Saint Louis, the same reasons, as afterwards reported in favor of the establishment of an assay office in that city, were based on assumed or hypothetical conditions which have never since prevailed.

While Saint Louis is the seat of an extensive metallurgical industry, of which the output of precious metals is large, the smelting works are fully equipped for the production of fine metal without recourse to such limited facilities as are offered by the several assay offices of the Government. Thus it is that Saint Louis is not a bullion center in the mint sense of that term. In any other sense it is a center of production like numerous other points where works are located for the complete reduction and parting of the precious metals.

\* Ex. Doc. No. 11, Forty-fourth Congress, first session,

† Forty-sixth Congress, Report No. 1462.

The product of large refineries at Saint Louis, the same as at other points in the United States, finds its way to the mints of the United States, or otherwise to market, without the intervention of an assay office of the Government.

According to the mint practice of the United States it has never been practicable for the assay office at Saint Louis to act as a medium for the purchase of silver bullion for coinage at the mint at New Orleans.

Contrary to what seems to have been proposed, but in conformity to the long-established mint practice of the United States, the assay office at Saint Louis has taken no part as a special agency for the purchase of silver bullion for coinage, the bulk of such purchases being subject to delivery at coinage mints, and mostly in the form of bars already parted. In that form all but a small fraction of the whole silver product of the United States is placed in the market at the hands of private refiners, few of whom are also miners.

The small fraction of silver otherwise purchased for coinage in a form already parted from gold, corresponds to what is contained in gold deposits above a certain fineness. Silver bullion for coinage at the mint at New Orleans is purchased for delivery at that mint free of cost to the Government, and at the same price as when delivered at the mint at Philadelphia. It is indeed far from certain that silver could be regularly purchased for delivery at Saint Louis at any lower price than for delivery at New Orleans.

Besides the melting and assaying of silver deposits for return in bars, the assay of gold deposits, and payment therefor, and their transmission to a coinage mint, constitute the whole business of the assay office at Saint Louis, the same as at all the other minor assay offices of the United States.

The main benefit derived from it is on the part of local depositors of old material, the avails of which are free of cost for expressage to one of the mints or assay offices, or, in the lack of other local facilities, to some other city nearer at hand where such facilities are found.

The business of the present assay office is mainly of a character which pertains to private refineries, such as are found in all large cities.

The continuance of this assay office has long been considered by this Bureau as an expenditure of public money, if not contrary to the purpose for which similar institutions are maintained by the Government, at least as an expenditure without corresponding benefit either to the mining industry or to the mint service of the Republic.

I have therefore deemed it my duty to omit an estimate of appropriations for the fiscal year 1889 for the support of the assay office at Saint Louis. And it seems to be my present duty to suggest that the Department take the regular course to recommend that this assay office be abolished.

BILL FOR THE RELIEF OF JAMES C. BOOTH, MELTER AND REFINER OF THE MINT AT PHILADELPHIA.

On April 26, 1886, a bill (H. R. 8256) was introduced in the House of Representatives, read twice, referred to the Committee on Claims, and ordered to be printed. This bill was as follows:

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of the Treasury be, and he is hereby, authorized and required to pay James C. Booth, melter and refiner of the mint of the United States at Philadelphia, out of any money in the Treasury not otherwise appropriated, the sum of one thousand eight hundred and forty-one dollars and eighty-seven cents, in full for the cost value of one thousand nine hundred and eighty ounces and twelve-hundredths of an ounce of silver bullion of standard fineness deposited by him with the*

superintendent of the mint at Philadelphia to make good a deficiency of that amount of bullion in the accounts of the mint for the fiscal year eighteen hundred and eighty-five, the same being the number of ounces of standard silver bullion contained in three bars missing from said mint, supposed to have been stolen while in the charge of the melter and refiner, but for which safe storage could not be provided for want of vault capacity in the mint.

On the 27th of April, 1886, the Director of the Mint addressed to the chairman of the Committee on Claims, House of Representatives, the following communication on the subject of the above bill:

TREASURY DEPARTMENT, BUREAU OF THE MINT.

Washington, D. C., April 27, 1886.

SIR: Referring to H. R. bill 8256, for the relief of James C. Booth, melter and refiner of the mint of the United States at Philadelphia, introduced in the House of Representatives yesterday by the Hon. Samuel J. Randall, and referred to the Committee on Claims, I have the honor to invite the attention of your honorable committee to the following statement. On page 14 of my annual report for 1885, with reference to the mint at Philadelphia, appears the following:

"The melter and refiner had received during the year 646,626.931 standard ounces of gold bullion, with a wastage of 7.885 ounces; and 28,936,069.91 standard ounces of silver bullion, with an apparent wastage of 3,541.93 ounces. It appears, however, that on January 3, 1885, silver bars numbered 7087, 7093, and 7113, containing 1,980.12 ounces of silver, not having been melted, were missed by the melter and refiner and the loss communicated by letter, on the next working day, to the superintendent. The wastage thus far actually allowed him was only 1,561.81 ounces."

This matter is again referred to on page 20 of the same report as follows:

"From this mint (Philadelphia) were missing silver bars containing 1,980.12 ounces of silver, valued at \$1,936.62, the supposed theft of which, in the winter of 1884-85, is now under investigation. Though promptly reported to the general department by the operative officer to whose custody such bars are technically committed, neither the theft of these bars nor the specific deficit equivalent to their value was duly reported to this Bureau until so reported by the present superintendent. The specific deficit created by the loss of these bars is at present borne on the books in a 'suspense account,' there seeming no justification for charging it as wastage, as, from the circumstance that it was not duly reported, seems to have been proposed."

It was found necessary to hold the melter and refiner technically responsible, under section 3508, Revised Statutes, for the 1,980.12 ounces of silver as above. Upon the demand of the Bureau, the melter and refiner has promptly deposited with the superintendent of the mint at Philadelphia this quantity of silver.

The "suspense account" specially opened for the purpose in the books of the mint at Philadelphia and to which was provisionally charged this amount of silver has been credited with the same amount, and therefore closed. The facts as briefly recited by me in my annual report will, so far as the melter and refiner is concerned, be seen to leave none but *technical* grounds for the responsibility of that officer in this case, no question arising as to the faithful discharge of his duties, or as to the exercise of due vigilance in the matter of the custody of silver bullion.

Referring in my report to the unsatisfactory conditions of the storage of bullion and coin in mints and assay offices, under the exigency of the accumulation of silver coin which the Treasury has not found it expedient to remove, I instanced the necessary exposure of bullion in the court of the mint at Philadelphia, where the thefts were committed.

Although responsible for all bullion delivered at the mint and obliged to receipt for the same, the melter and refiner is without the power to provide extra means for the safety of what is beyond the capacity of his own vaults. The melter and refiner is thus to be exonerated from moral responsibility.

In my report, as above quoted, it is stated that "the melter and refiner had received during the year \* \* \* 28,936,069.91 standard ounces of silver bullion, with an apparent wastage of 3,541.93 ounces," and that "the wastage thus far allowed him was only 1,561.81 ounces."

Section 3542, Revised Statutes, precludes the loss corresponding to the quantity of silver stolen being charged to "wastage," as it clearly can not be classified as "*bona fide* waste." In view, however, of the facts here presented, and of the exceedingly small proportion of wastage as compared with the large amount of silver operated upon, I have the honor to recommend, as an act of simple justice to the melter and refiner, that the relief asked for in bill 8256 be recommended by resolution of your honorable committee for enactment by Congress.

Very respectfully,

JAS. P. KIMBALL,  
Director of the Mint.

HON. WILLIAM M. SPRINGER,  
Chairman Committee on Claims, House of Representatives.

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On the 3d of February, 1887, the following communication was addressed to the Secretary of the Treasury with reference to a letter of the chairman of the Committee on Claims, House of Representatives, on the same subject:

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
*Washington, D. C., February 3, 1887.*

SIR: In reply to your reference of the inclosed letter of the chairman of the Committee on Claims, House of Representatives, I have the honor to state that the claim of Dr. James C. Booth, melter and refiner of the United States mint at Philadelphia, for \$1,841.87, is based on the payment by him of this amount, corresponding to the value of 1,980.12 standard ounces of silver stolen in the winter of 1884-'85 while technically in his custody from the fact of his having receipted for the same. His responsibility, as a matter of fact, was thus only technical, owing to the circumstance that no provision was made by the superintendent for the safe custody of silver bullion for want of vault room.

It was therefore stored in the court of the mint and thus exposed to depredation, a circumstance over which the melter and refiner had no control. When called upon by me to make good the deficiency charged to him this was done without demur, and the account closed on the books of the mint.

All the circumstances in the case, with their technical bearing, were related by me in my report for the fiscal year 1885, pages 14 and 20, and again referred to in my report for the fiscal year 1886, pages 13 and 23. A statement in detail was submitted on April 27, 1886, to the honorable chairman of the Committee on Claims, House of Representatives. Both in my two reports and in my letter to the chairman I have urged the favorable consideration of Dr. Booth's claim, as an act of simple justice to this efficient and venerable officer, who has grown old in the position which he has held for nearly forty years.

Very respectfully,

JAS. P. KIMBALL,  
*Director of the Mint.*

The SECRETARY OF THE TREASURY.

So far as this Bureau is informed no action on the above bill was reached by the Committee on Claims.

#### MINOR NICKEL AND COPPER COIN.

The following letter, addressed to the Speaker of the House of Representatives by the Acting Secretary of the Treasury, April 12, 1886, and referred on the following day to the Committee on Coinage, Weights, and Measures, and ordered to be printed, having failed of action on the part of that committee, and therefore not having been brought forward for further consideration of Congress, the attention of the Department is again called to the importance of the proposed amendment, as contained in the communication above referred to.

[Ex. Doc. No. 174, House of Representatives, Forty-ninth Congress, first session.]

TREASURY DEPARTMENT, *April 12, 1886.*

SIR: In order to avoid an accumulation of minor coins in the sub-treasury offices, where they are now redeemed under the law in multiples of \$20, and from which offices they can not be obtained free of cost for transportation to the persons desiring them, I have the honor to recommend that section 3529, Revised Statutes of the United States, be amended as follows, viz:

"SEC. 3529. The minor coins authorized by this title may, at the discretion of the Director of the Mint, be delivered in any of the principal cities and towns of the United States, at the cost of the mint for transportation, and shall be exchangeable at par at the mint in Philadelphia, at the discretion of the superintendent, for any other coins of copper, bronze, or copper-nickel, heretofore authorized by law. It shall be lawful for the Treasurer and the several assistant treasurers and depositaries of the United States to redeem in lawful money, under such rules as may be prescribed by the Secretary of the Treasury, all copper, bronze, and copper-nickel coins authorized by law, when presented in sums of not less than twenty dollars. Whenever, under this authority, these coins are presented for redemption in such quantity as to show the amount outstanding to be redundant, the Secretary of the Treasury is authorized and

required to direct that such coinage shall cease until otherwise ordered by him," but *such coins as may have been redeemed by the above-named officers may be transferred to the mint of the United States at Philadelphia, and reissued therefrom at the cost of the mint for transportation, as provided in section 3528.*

The proposed amendment consists of the words in italics.

The minor coins having been presented for redemption in such quantity as to show the amount outstanding to be redundant, the Secretary has discontinued the coinage thereof as required by law, and all "minor coinage profits" have been deposited in the Treasury; consequently the Department, in letter of 10th instant, asked for an appropriation of \$5,000 for the "transportation of minor coins," to enable it to dispose of the accumulation in the sub-treasury before resuming coinage.

Respectfully, yours,

C. S. FAIRCHILD,  
*Acting Secretary.*

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES,  
*Washington, D. C.*

#### SUBSIDIARY SILVER COIN.

On December 6, 1886, a letter of the Director of the Mint was communicated by the Secretary of the Treasury to the United States Senate and to the Speaker of the House of Representatives, and referred to the Committee on Coinage, Weights, and Measures, pointing out the need of new legislation in the matter of the statutory limit of subsidiary silver coin outstanding in circulation, as follows:

[Ex. Doc. No. 16, House of Representatives, Forty-ninth Congress, second session.]

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
*Washington, D. C., December 2, 1886.*

SIR: I have the honor to invite your attention to the prevailing statutes relating to the quantity of subsidiary coin in circulation, and the effect of the same in restricting the issue of new coin to supply the public demand. The practice of the Treasury Department seems to have been based upon the theory that it is its duty to supply subsidiary coin up to the full requirements of this demand. Yet this practice seems to be not in accord with the joint resolution of 1876—limiting the amount of subsidiary coin outstanding to \$50,000,000.

Believing that the action of the Department in meeting this demand, as well as the theory upon which this practice is obviously based, will be sustained by special enactment if the attention of Congress be invited to the necessity of specific legislation upon this important matter, I submit the following memorandum of the state of the case as viewed by me, accompanied by a draught of what might be proposed in the form of a joint resolution for the issue of subsidiary silver coin, should this coincide with your judgment and meet with your wishes.

Very respectfully,

JAMES P. KIMBALL,  
*Director of the Mint.*

THE SECRETARY OF THE TREASURY.

#### MEMORANDUM.

The act of February 21, 1853, by which act the silver coins of the United States of less denominations than one dollar were made subsidiary, provided (section 3):

"That in order to procure bullion for the requisite coinage of the subdivisions of the dollar authorized by this act, the Treasurer of the Mint, shall, with the approval of the Director, purchase such bullion with the bullion fund."

Section 4 provided, however—

"That the amount coined into quarter-dollars, dimes, and half dimes shall be regulated by the Secretary of the Treasury."

This was the first act which provided for the coinage of subsidiary silver, and by it the amount to be issued, as well as the manner of procuring the bullion for its coinage, was placed by law under the control of the Secretary of the Treasury and the Director of the Mint.

The act of February 12, 1873, known as the Coinage Act of 1873, which revises all the laws on the subject of coinage, provides (section 27, now section 3526, R.S.):

"In order to procure bullion for the silver coinage authorized by this title, the su-



perintendents, with the approval of the Director of the Mint, as to price, terms, and quantity, shall purchase such bullion with the bullion fund."

There is no limitation contained in the act as to the amount of subsidiary silver coin which should be issued; so that the act of 1873 left the matter of the subsidiary coinage exactly as it was by the original act of 1853.

The act to provide for the resumption of specie payments, approved January 14, 1875, provided—

"That the Secretary of the Treasury is hereby authorized and required, as rapidly as practicable, to cause to be coined, at the mints of the United States, silver coins of the denominations of ten, twenty-five, and fifty cents of standard value, and to issue them in redemption of an equal number and amount of fractional currency of similar denominations, or, at his discretion, he may issue such silver coins through the mints, sub-treasuries, public depositories, and post-offices of the United States; and, upon such issue, he is hereby authorized and required to redeem an equal amount of fractional currency, until the whole amount of such fractional currency outstanding shall be redeemed."

The joint resolution of July 22, 1876, for the issue of silver coins, provided (section 1):

"That the Secretary of the Treasury may issue the silver coin at any time in the Treasury to an amount not exceeding ten million dollars in exchange for an equal amount of legal-tender notes," etc.

"SEC. 3. That in addition to the amount of subsidiary silver coin authorized by law to be issued in redemption of the fractional currency, it shall be lawful to manufacture at the several mints, and issue through the Treasury and its several offices, such coin to an amount that, including the amount of subsidiary silver coin and of fractional currency outstanding, shall in the aggregate, not exceed, at any time, fifty million dollars."

"SEC. 4. That the silver bullion required for the purposes of this resolution shall be purchased from time to time at market rate, by the Secretary of the Treasury: *Provided*, That the amount of money at any one time invested in such silver bullion, exclusive of such resulting coin, shall not exceed two hundred thousand dollars."

This joint resolution, while it contained no repealing clause, not only limited the amount of subsidiary silver coin outstanding at any one time to \$50,000,000, but prescribed a different mode for the purchase of the bullion for such coinage, and, moreover, enacted that the amount of money at any one time invested in such bullion should not exceed \$200,000.

It has always been a question whether this joint resolution repealed the existing statutes (sections 3526 and 3527, R. S.). It appears to have been passed for the purpose of authorizing the substitution of subsidiary silver coin for the fractional currency outstanding, but its limitation of \$50,000,000 as the amount of subsidiary silver which should be outstanding at any one time is not in harmony with the provisions of the Coinage Act of 1873 (sections 3526 and 3527, R. S.), and the two laws can not be construed so that each shall stand.

The total coinage of subsidiary silver from 1853 to 1875, the date of the first resolution mentioned, was \$64,825,896; from February 1, 1875, to July 31, 1876, under the provisions of the resumption act of 1875, there were coined \$15,962,880, and from August 1, 1876, to June 30, 1886, \$28,707,294. Total since 1853, \$109,496,070.

The amount of subsidiary silver supposed to be in circulation at the present time is about \$75,000,000, notwithstanding the provisions in the joint resolution of July 22, 1876, that the amount outstanding at any time should not exceed \$50,000,000. There is, moreover, at the present time, a demand for certain denominations of subsidiary silver coin, and the mint is engaged in executing such coinage.

The purpose of this joint resolution is to remove the impracticable limitation in the amount of subsidiary coin outstanding, and to provide necessary legislation for such practice of the Government as has prevailed for a number of years.

#### PROPOSED JOINT RESOLUTION FOR THE ISSUE OF SUBSIDIARY SILVER COIN.\*

*Resolved by the Senate and House of Representatives of the United States of America in Congress assembled*, That so much of the joint resolution for the issue of subsidiary silver coin approved July 22, 1876 (section 3, page 254, Volume I, Supplement to the Revised Statutes), as limits the amount of subsidiary silver coin outstanding at any time to \$50,000,000, is hereby repealed.

SEC. 2. That in order to procure bullion for the subsidiary silver coinage authorized by law, the Director of the Mint, with the approval of the Secretary of the Treasury

\* S. R. 110, February 14, 1887.



as to price, terms, and quantity, shall purchase such bullion with the bullion fund: *Provided, however,* That the amount coined into half-dollars, quarter-dollars, and dimes shall be regulated by the Secretary of the Treasury.

No action having been reached by Congress on this joint resolution, this important measure is again brought to the attention of the Department.

## DISTRIBUTION OF MINOR COIN.

On the 22d of December, 1886, the Secretary of the Treasury addressed to the Speaker of the House of Representatives copy of letter dated December 14, from the Director of the Mint, concurred in by the Treasurer of the United States, suggesting certain amendments of the Revised Statutes tending to obviate the difficulties arising from the execution of the present laws governing the issue and redemption of minor coin.\* This letter, referred January 4, 1887, to the Committee on Coinage, Weights, and Measures and ordered to be printed, was as follows:

TREASURY DEPARTMENT, *December 22, 1886.*

SIR: I have the honor to submit herewith, for the consideration of the House of Representatives, copy of letter dated 14th instant, from the Director of the Mint, concurred in by the Treasurer of the United States, suggesting certain amendments to the Revised Statutes of the United States which will tend to obviate the difficulties arising from the execution of the present laws governing the issue and redemption of minor coin, as pointed out in the Director's communication.

Respectfully, yours,

D. MANNING,  
*Secretary.*

The SPEAKER OF THE HOUSE OF REPRESENTATIVES,  
*Washington, D. C.*

TREASURY DEPARTMENT, BUREAU OF THE MINT,

*Washington, D. C., December 14, 1886.*

SIR: The following sections of the Revised Statutes bearing upon the issue and redemption of minor coin are the authority for the present practice of the Treasury Department in its relations to the circulation of these coins:

"SEC. 3528. For the purchase of metal for the minor coinage authorized by this title a sum not exceeding \$50,000 in lawful money of the United States shall be transferred by the Secretary of the Treasury to the credit of the superintendent of the mint at Philadelphia, at which establishment only, until otherwise provided by law, such coinage shall be carried on. The superintendent, with the approval of the Director of the Mint as to price, terms, and quantity, shall purchase the metal required for such coinage by public advertisement, and the lowest and best bid shall be accepted, the fineness of the metals to be determined on the mint assay. The gain arising from the coinage of such metals into coin of a nominal value, exceeding the cost thereof, shall be credited to the special fund denominated the minor-coinage profit fund; and this fund shall be charged with the wastage incurred in such coinage, and with the cost of distributing said coins as hereinafter provided. The balance remaining to the credit of this fund, and any balance of profits accrued from minor coinage under former acts, shall be, from time to time, and at least twice a year, covered into the Treasury.

"SEC. 3529. The minor coins authorized by this title may, at the discretion of the Director of the Mint, be delivered in any of the principal cities and towns of the United States, at the cost of the Mint for transportation, and shall be exchangeable at par at the mint in Philadelphia, at the discretion of the superintendent, for any other coins of copper, bronze, or copper-nickel heretofore authorized by law. It shall be lawful for the Treasurer, and the several assistant treasurers and depositaries of the United States to redeem, in lawful money, under such rules as may be prescribed by the Secretary of the Treasury, all copper, bronze, and copper-nickel coins authorized by law when presented in sums of not less than \$20. Whenever, under this authority, these coins are presented for redemption in such quantities as to show the amount

\* Ex. Doc. No. 50, House of Representatives, Forty-ninth Congress, second session.

outstanding to be redundant, the Secretary of the Treasury is authorized and required to direct that such coinage shall cease until otherwise ordered by him."

The experience of the last year has shown conclusively that minor coins may accumulate in the Treasury and sub-treasuries of the United States, at present the only agencies for the redemption of minor coin, while at the same time there may exist a pressing demand for the same class of coin from parts of the United States remote from the Treasury and its branches.

Again, there may be accumulations at the Treasury or at certain sub-treasuries of the United States, while at the same time there may exist a demand at commercial centers, even where other sub-treasuries are located. Yet no specific appropriation for this particular purpose is available for the transfer from one sub-treasury to another of minor coin found to be in excess of the demand at the locality where any such excess may happen.

A portion of the minor coin making up any accumulation in the Treasury or sub-treasuries, and likely to be taken as tending to show redundancy, is unavailable for reissue without cleansing or recoinage. Yet uncurrent coin of this description has until recently been reported in the Treasury statements without discrimination as such. All transfers of coin for cleansing and reissue or for recoinage can be made only by special appropriations. Such appropriations are estimated for by the Secretary of the Treasury to cover the cost of transportation to the mint at Philadelphia, and also to cover the loss between the nominal value of old coin and its final yield upon recoinage. It seems that a redundancy has been assumed to exist whenever notable accumulations have been reported at the Treasury or sub-treasuries of the United States.

Under section 3528 the coinage of minor coin can be carried on only at the mint at Philadelphia. All operations in the way of the renewal of coin unsuitable for reissue are likewise confined to this mint. A special fund, denominated the "minor-coinage profit fund," is an account with the mint at Philadelphia alone, from which fund the cost of distributing said coins is paid, as provided by section 3528.

At the discretion of the superintendent, and at the cost of the mint at Philadelphia; namely, the minor-coinage profit fund, under section 3529, minor coins are redeemable, in kind, by the issue of new coin to applicants anywhere within the United States. This transportation is by contract, at present with the Adams Express Company.

The provisions of law above briefly cited tend to the ultimate redemption of minor coin by the mint at Philadelphia. This is effected, however, only through the Treasury and sub-treasuries of the United States from time to time, but not without delay for want of available appropriation for its movement. All other movement of minor coin from the Treasury and sub-treasuries is, except in extraordinary cases, at the hands of applicants in person. Hence redundancy at sub-treasuries, independent of the demand of the general public beyond convenient reach of such depositories, while it happens that the coin redeemed by the sub-treasuries readily passes again into circulation other than local only through the mint at Philadelphia. This is due to several reasons, of which the following may be mentioned: First, the circumstance that the cost of distribution from this mint alone is defrayed by the Government; second, the popular preference of applicants for fresh coin as compared with coin which has been in use.

It may be proper to remark that there is reason to believe that a part of the demand for minor coin, which has arisen to an unprecedented extent during the latter part of the last twelve months, during the first part of which period the coinage of minor coin had not been resumed since February 16, 1865, is at least unreasonable, it having appeared that, in the exercise of a preference for fresh coin, applications to the mint at Philadelphia for large sums of minor coin have been made from the very cities where an accumulation was reported in the sub-treasuries.

The Treasury and the nine sub-treasuries act as redemption agencies for minor coin. As above intimated, there is reason to believe that it has become a trade custom in the case of many persons, who in the course of their business receive the largest quantities of minor coin, and in whose hands it thus accumulates, to send their surplus to the sub-treasuries for redemption, while the same persons are among the most frequent applicants at the mint at Philadelphia for fresh supplies of coin, mainly, it is presumed, for the sake of obtaining bright, new coin for daily use.

Such a practice must, in the measure of its adoption, tend to the ultimate redundancy of this class of coin through its coinage beyond the reasonable demands of the public.

This redundancy might be checked and the circulation of minor coin properly controlled if, instead of so many redemption agencies, the mint at Philadelphia were constituted the sole redemption agency for minor coin. But such a measure is regarded as undesirable, as it would result in throwing upon this single institution the whole burden of accounting for surplusage whenever it occurs, instead of this onerous work being divided, as at present, between the Treasury and its several branches.

The ends which might be accomplished directly by a measure to which the objections have already been stated may, it is believed, be indirectly accomplished by other expedients, which I will proceed to formulate by way of an amendment of the Revised Statutes for consideration of Congress, after reciting its objects, as follows:

(1) To facilitate the proper discernment between redundancy of minor coin on the one hand and the public demand for the same class of coin on the other.

(2) To make available accumulations of minor coin in the hands of the Government for the purpose of supplying the demand wherever it may occur.

(3) To prevent redundancy through recoinage, for want of uniform action between the Treasury and the Bureau of the Mint.

(4) To discriminate against unreasonable demands for new coin where current old coin is available.

(5) To prevent undue redemption of minor coin and its withdrawal from circulation.

(6) To promote the equality of its circulation in different parts of the country.

It is believed that the above ends can be attained by amendments of the Revised Statutes as follows, namely, of section 3529, so as to read, after the last word in said section:

"And in order to supply any demand upon the mint at Philadelphia for minor coins during the suspension of such coinage from the redundancy in the Treasury of the United States, the Secretary of the Treasury is authorized and required to cause to be transferred from the Treasury of the United States to the mint at Philadelphia, for recoinage or for cleaning and reissue, minor coins of such denominations as may be necessary to enable the superintendent of the mint to supply demands upon him for the same."

And of section 3528 of the Revised Statutes, so that the last clause shall read, instead of—

"The balance remaining to the credit of this fund, and any balance of profits accrued from minor coinage under former acts, shall be, from time to time, and at least twice a year, covered into the Treasury," as follows:

"The balance remaining to the credit of this fund shall be at least once a year covered into the Treasury, except such sums, to be estimated by the superintendent of the mint at Philadelphia and approved by the Director of the Mint, as may be deemed necessary to pay the expense of, and incidental to, the distribution of minor coin during such periods as the coinage of minor coin shall be suspended by order or the Secretary of the Treasury: *Provided*, That the sum so retained by the superintendent of the mint at Philadelphia from the balance before mentioned shall not exceed \$25,000."

The above amendments contemplate the payment of the cost of transfer of minor coin from the Treasury and sub-treasuries to the mint at Philadelphia for recoinage and cleaning for reissue, as heretofore, by special appropriations estimated for from year to year by the Secretary of the Treasury. It is not deemed desirable to pay the cost of such transfer from the minor-coinage profit fund, for the reason that this fund is expended by the mint at Philadelphia subject to the approval of the Director of the Mint, while the transfer of minor coin to the mint at Philadelphia is regulated by the Treasury of the United States. It is regarded impracticable for the same fund to be used and accounted for by two distinct branches of the Treasury Department.

The balance of profits accrued from minor coinage under former acts, provided for in section 3528, was long since covered into the Treasury.

The above facts are brought to your notice for consideration and the above measure proposed, trusting that, should the latter meet with your concurrence, you may be pleased to lay the whole before Congress.

Very respectfully,

JAS. P. KIMBALL,  
*Director of the Mint.*

The SECRETARY OF THE TREASURY.

I fully concur in the within statement. The remedy proposed would, in my opinion, carry out the purpose for which it is devised.

C. N. JORDAN,  
*Treasurer United States.*

The Director of the Mint appeared before the Committee on Coinage, Weights, and Measures in February, 1887, on which occasion this bill was ordered to be reported by that committee. Owing to the pressure of business toward the close of the Forty-ninth Congress such action failed to be reached.

## PARTING AND REFINING BULLION.

On the 20th of January, 1887, letters of the Director of the Mint, accompanied with another by the First Comptroller, were communicated by the Secretary of the Treasury to the Speaker of the House of Representatives. These letters recommended legislation, in the matter of parting and refining bullion, by which the sale of the by-products of acid refineries can be applied to the reduction of the expenses of such refineries, as previous to the fiscal year 1886, as follows:

[Ex. Doc. No. 96, House of Representatives, Forty-ninth Congress, second session.]

TREASURY DEPARTMENT, *January 20, 1887.*

SIR: I have the honor to transmit herewith, for the consideration of Congress, copy of letter of the Director of the Mint, of the 12th instant, and inclosure, recommending certain legislation in the matter of parting and refining bullion by which the sale of the by-products of acid refineries can be applied to the reduction of the expenses of such refineries.

Respectfully yours,

D. MANNING,  
*Secretary.*

THE SPEAKER OF THE HOUSE OF REPRESENTATIVES.

TREASURY DEPARTMENT,  
BUREAU OF THE MINT,  
*Washington, D. C., January 12, 1887.*

SIR: Paragraph 8, page 379, of the Supplement to the Revised Statutes of the United States, provides—

“And refining and parting of bullion shall be carried on at the mints of the United States and at the assay office at New York.

“And it shall be lawful to apply the moneys arising from charges collected from depositors for these operations pursuant to law so far as may be necessary to the defraying in full of the expenses thereof, including labor, materials, and wastage.

“But no part of the moneys otherwise appropriated for the support of the mints and the assay office at New York shall be used to defray the expenses of refining and parting bullion.”

Under this provision of law, which was passed originally in the appropriation act approved August 15, 1876 (19 Stats., 156, 157), the charges for parting and refining bullion were so fixed at the several coinage mints and the assay office at New York that the receipts should equal, as nearly as possible, the expenses of the operations. The spent acid and blue vitriol resulting from the processes of refining, prior to October 24, 1885, have been credited on the bills for acid, thereby reducing the expenses of the refinery at the New York assay office some \$20,000 a year. On the 24th October, 1885, the First Comptroller decided that the receipts from spent acid and blue vitriol must be considered as old material and, under section 3618, Revised Statutes, deposited in the Treasury. In the report of this Bureau for the last fiscal year, pages 6 and 7, I have referred to the effect of this ruling in the accounts of the assay office at New York. A similar effect will be produced upon the accounts of the whole mint service, in that the expenditure will not appear to have been diminished by regular manufacturing assets.

A still more important effect of this ruling is to render the acid refineries of the mint service, under the present schedule of charges, no longer able to be self-supporting, as the law requires.

It will be necessary, therefore, either to increase the schedule of charges imposed upon depositors of bullion, or modify the law so as to explicitly provide for the application of the proceeds of the sale of the by-products of the acid refineries of the mints and assay offices of the United States to the reduction of the expenses of the operations of such acid refineries.

I have the honor to recommend the latter alternative, and beg to suggest that paragraph 8, page 379, of the Supplement to the Revised Statutes, be re-enacted in the legislative appropriation bill for the fiscal year 1888, so as to read as follows:

“And refining and parting of bullion shall be carried on at the mints of the United States and at the assay office at New York.

“And it shall be lawful to apply, pursuant to law, the moneys arising from charges collected from depositors and from the proceeds of the sale of by-products, resulting from the operations of the refinery, so far as may be necessary to the defraying in full of the expenses thereof, including labor, materials, and wastage.

"But no part of the moneys otherwise appropriated for the support of the mints and the assay office at New York shall be used to defray the expenses of refining and parting bullion."

Hoping that you will be pleased to present this matter to the consideration of Congress,

I am, very respectfully, yours,

JAMES P. KIMBALL,  
*Director of the Mint.*

The SECRETARY OF THE TREASURY.

TREASURY DEPARTMENT, January 14, 1887.

Respectfully referred to the First Comptroller for report.

HUGH S. THOMPSON,  
*Assistant Secretary.*

TREASURY DEPARTMENT,  
FIRST COMPTROLLER'S OFFICE,  
Washington, D. C., January 15, 1887.

SIR: I have examined the letter of the Hon. James P. Kimball, Director of the Mint, to you, of January 12, 1887, in regard to appending a clause to the bill making appropriations for the legislative, executive, and judicial departments of the Government, for the fiscal year ending June 30, 1888, containing a provision similar to that which was in the bill for 1876, found in 19 Stat., 156-7, which letter you have referred to me for report.

In reply, I will say I see no good reason why such a clause should not be appended to the bill in question.

The letter of the Director of the Mint is herewith returned.

Very respectfully,

M. J. DURHAM,  
*Comptroller.*

The SECRETARY OF THE TREASURY.

The above communication was referred to the Committee on Coinage, Weights, and Measures on January 21, 1887, and ordered to be printed.

A hearing on the subject of this communication was accorded by the Committee on Coinage, Weights, and Measures in February, 1887, on which occasion the amendment as proposed by the Director of the Mint was ordered to be reported. No further action became practicable owing to the pressure of business during the closing days of the session.

I take the present occasion to remark, in further elucidation of the above technical matter, that the utilization of the by-products was a leading factor in the saving effected by the change in the refinery practice of the mint service from the nitric-acid to the sulphuric-acid process of parting bullion, and that this saving as proposed was considered, and has since proved, the only effective means of rendering the operations of the refineries of the United States self-supporting as provided by law, without increasing the cost of this operation to depositors.

In order that the object of the above proposal may be definitely accomplished, and the mint service relieved from embarrassment from prevailing rulings on the matter involved, I take the present occasion to recommend that the same measure be presented to Congress for special enactment.

#### ANNUAL ASSAY OF COINS.

On the 21st of February, 1887, the following letter\* from the Acting Secretary of the Treasury was addressed to the Speaker of the House of Representatives, inclosing communications from the Director of the Mint and from a committee of the Annual Assay Commission of 1887; all of which, on February 22, was referred to the Committee on Coinage, Weights, and Measures, and ordered to be printed.

The important matter which forms the subject of the following communications was presented to Congress during the last days of the session; and therefore failed to be considered by the Committee on Coinage, Weights, and Measures, by which it accordingly failed to be reported.

\* H. R. Ex. Doc. No. 189, Forty-ninth Congress.

## ANNUAL ASSAY COMMISSION.

TREASURY DEPARTMENT, OFFICE OF THE SECRETARY,  
Washington, D. C., February 21, 1887.

SIR: I have the honor to transmit herewith, for the consideration of Congress, a letter from the Director of the Mint of the 19th instant, in relation to an amendment of the laws governing the annual assay of coins.

The accompanying letter and recommendations on the part of the Director of the Mint are in response to the reference to him by this Department of resolutions passed by the Annual Assay Commission of 1887, a copy of which is appended to that letter. These resolutions were duly presented to the President, and by the President referred to this Department.

With the recommendations of the Director of the Mint, the Comptroller of the Currency, as chairman of the committee appointed by the Assay Commission to present this matter to the President, has signified to me his concurrence.

Commending this matter to the attention of Congress, I beg to express the hope that, notwithstanding its approaching adjournment, this communication may receive the attention of the House of Representatives in time to be submitted in due course to the Senate, as it is desirable that the procedure for the next annual assay should have the benefit of the legislation now proposed.

Very respectfully,

C. S. FAIRCHILD,  
Acting Secretary.

The SPEAKER OF THE HOUSE OF REPRESENTATIVES.

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
Washington, D. C., February 19, 1887.

SIR: Since assuming the duties of this office I have become aware of the failure of the provisions of law governing the procedure of the annual trial of coins, and contained in the Coinage Act of 1873, to satisfy several of the Commissions appointed by the President under the same act, on the grounds that the sections named are not sufficient to accomplish the purpose for which they were intended.

Efforts have been repeatedly made by different Commissions to present this matter to the attention of Congress. Such efforts have generally failed upon points of order tending to exclude from the cognizance of the Commission any matter beyond its specific duties, as prescribed by sections 3539 and 3547, Revised Statutes, cited in the memorandum below.

On the occasion of the last meeting of the Annual Assay Commission, at the mint at Philadelphia, February 9, 1887, resolutions to the same purpose were passed, as also below cited. These resolutions were duly laid before the President of the United States, and by the President referred to the Treasury Department for suitable action in the premises.

It becomes, therefore, my duty to address to you the present communication, with the citations mentioned, along with amendments drafted by me to the sections of the Revised Statutes relating to the annual trial of coins.

It will be noted that it is proposed to amend the present laws mainly (1) in respect to the mode of taking coin for assay from the several coinage mints of the United States; (2) as to the place of meeting of the Annual Assay Commission; (3) as to the constitution of the Commission, particularly in respect to *ex-officio* members; and (4) as to the mode of providing for the reimbursement of personal traveling expenses of the members of the Commission, other than officers of the Treasury Department or of the Mint service, and while in discharge of the duties of the Commission.

Under the first and second heads the accompanying resolutions of the last Assay Commission are sufficiently explicit.

Under the third head, the changes proposed in *ex-officio* membership are such as it would seem should follow from the proposed change in the place of meeting.

On the subject under the fourth head it remains for me to state that the expenses of the Commission have heretofore entered into the estimate of the contingent expenses of the mint at Philadelphia, appropriated for in the legislative, executive, and judicial appropriation bill.

It has hitherto been the custom to call upon members of the Commission at the close of the meeting for statements of their personal expenditures while absent from home upon the duties of this Commission, to be reimbursed from the contingent appropriation of the mint at Philadelphia. This mode of reimbursement of expenses often proves unsatisfactory, at least to other than *ex-officio* members, from the fact that such expenses on the part of private individuals have to be estimated and distinguished

as between those of a necessary and an unnecessary kind. It is therefore proposed, in this matter, to adopt a mode of reimbursement uniform with that in the case of officers of the Army traveling on duty, and to substitute a per diem allowance by way of compensation for hotel and other personal expenses during the brief session of the Commission.

Appended hereto will be found an exhibit of the estimates and expenditures for the Annual Assay Commission each year since the passage of the Coinage Act of 1873. Considering the other changes proposed, it is probable that between the present and proposed mode of reimbursement of expenditures there would be no material difference in the total amount.

It is to be hoped that the present communication can be laid before Congress in time to be concurrently acted upon by both Houses before adjournment. I have therefore the honor to suggest that, out of respect for the resolution of the Assay Commission of 1887, the substance of this letter be transmitted to the President *pro tempore* of the Senate and to the Speaker of the House of Representatives, with your own recommendation in the premises.

It may not be improper for me to add that, in concurrence with the Assay Commission of 1887, I consider that the present statutes tend to a perfunctory, instead of a critical, trial of coins, from want of more precise laws on the subject, and that a transfer of the annual trial of coins from one of the mints under inquiry to the executive office of the Mint service in the Treasury Department at Washington would be a highly desirable amendment of law.

Very respectfully,

JAS. P. KIMBALL,  
*Director of the Mint.*

The SECRETARY OF THE TREASURY.

TREASURY DEPARTMENT,  
OFFICE OF COMPTROLLER OF THE CURRENCY,  
*Washington, D. C., February 15, 1887.*

Mr. PRESIDENT:

The undersigned, a committee appointed for the purpose, have the honor to present the accompanying report and resolutions, and to bring to your attention the following reasons for the recommendations of the Commission as to a change in the law.

These reasons rest upon the fact that the Commission found itself without sufficient evidence that the coins presented for the tests of weight and fineness were true and fair samples of the several deliveries from the different mints.

The Commission could accept these coins as such samples only upon the assumption that the various mint officers had performed accurately and conscientiously the duties prescribed to them by the laws; but as the accuracy and fidelity of these officers is the very matter to be ascertained by the Annual Assay, their assumption at the outset is obviously destructive of the effectiveness of the inquest for the purposes declared in the law.

It appeared, therefore, to be the duty of the Commission to direct attention to the propriety of confiding to others than the officers of the mints the drawing of sample coins, and their custody until the meeting of the Annual Assay Commission.

As the operations of the mint at Philadelphia are larger than the operations of the others, it seems especially proper to secure indubitable evidence of the authenticity and genuineness of samples representing each delivery from that mint, and to this end this Commission has suggested that the sample coins from all the mints be transmitted to Washington, and there kept in custody until the meeting of the Annual Assay Commission.

Very respectfully,

W. L. TRENHOLM.  
PHILIP E. CHAZAL.

To the PRESIDENT OF THE UNITED STATES.

[Extract from the minutes of the annual meeting of the Assay Commission, Philadelphia, February 10, 1887.]

On motion of Mr. Holbrook, it was—

*Resolved*, That the Assay Commission having examined and tested the reserved coins of the several mints for the year 1886, and it appearing that these coins do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial is considered and reported as satisfactory.



The following resolutions were also adopted :

*Resolved*, That in the judgment of the Annual Assay Commission of 1887 the value of the work of the Commission will be greatly enhanced by holding the future meetings of the Assay Commission at Washington, in the Bureau of the Mint; that the coins reserved for examination should be from lots selected at random by an officer of the Mint Bureau, under regulations to be prescribed by the Director of the Mint.

*Resolved*, That this resolution be transmitted to the President, as a part of the report of the Commission, with the recommendation that legislation in accordance with this resolution be enacted.

*Resolved*, That the Commission, in making these recommendations, disclaims any reflection upon the officers of this or any other mint.

Mr. Trenholm moved the appointment of a committee of three to deliver the report of the Commission to the President, with instructions to accompany it with a letter of transmittal setting forth the reasons of the Commission for arriving at its conclusions.

The motion was adopted.

The chair appointed Messrs. Trenholm, Chazal, Winchell.

SEC. 3539. At every delivery of coins made by the coiner to a superintendent, it shall be the duty of such superintendent, in the presence of the assayer, to take indiscriminately a certain number of pieces of each variety for the annual trial of coins, the number for gold coins being not less than one piece for each one thousand pieces or any fractional part of one thousand pieces delivered; and for silver coins one piece for each two thousand pieces or any fractional part of two thousand pieces delivered. The pieces so taken shall be carefully sealed up in an envelope, properly labeled, stating the date of the delivery, the number and denomination of the pieces inclosed, and the amount of the delivery from which they were taken. These sealed parcels containing the reserved pieces shall be deposited in a pyx, designated for the purpose at each mint, which shall be kept under the joint care of the superintendent and assayer, and be so secure that neither can have access to its contents without the presence of the other, and the reserved pieces in their sealed envelopes from the coinage of each mint shall be transmitted quarterly to the mint at Philadelphia. A record shall also be kept at the same time of the number and denomination of the pieces so taken for the annual trial of coins and of the number and denomination of the pieces represented by them and so delivered, a copy of which record shall be transmitted quarterly to the Director of the Mint. Other pieces may at any time be taken for such tests as the Director of the Mint shall prescribe.

SEC. 3547. To secure a due conformity in the gold and silver coins to their respective standards of fineness and weight, the judge of the district court for the eastern district of Pennsylvania, the Comptroller of the Currency, the Assayer of the Assay Office at New York, and such other persons as the President shall, from time to time, designate, shall meet as Assay Commissioners at the mint in Philadelphia, to examine and test, in the presence of the Director of the Mint, the fineness and weight of the coins reserved by the several mints for this purpose, on the second Wednesday in February, annually, and may continue their meetings by adjournment, if necessary. If a majority of the Commissioners fail to attend at any time appointed for their meeting, the Director of the Mint shall call a meeting of the Commissioners at such other time as he may deem convenient. If it appears by such examination and test that these coins do not differ from the standard fineness and weight by a greater quantity than is allowed by law, the trial shall be considered and reported as satisfactory. If, however, any greater deviation from the legal standard or weight appears, this fact shall be certified to the President; and if, on a view of the circumstances of the case, he shall so decide, the officers implicated in the error shall be thenceforward disqualified from holding their respective offices.

#### MEMORANDUM.

[SECTION 3539, REVISED STATUTES, PROPOSED AMENDMENT.]

*Proposed changes and additions in small capital letters.*

At every delivery of coins made by a coiner to a superintendent, it shall be the duty of such superintendent, **IN PERSON**, in the presence of the **COINER AND** assayer, to take indiscriminately, **WITHOUT PREVIOUS WEIGHING OR OTHER SPECIAL TEST**, a certain number of pieces of each variety **OF COINS**, for the annual trial of coins, the num-



ber for gold coins being not less than one piece for each one thousand pieces or any fractional part of one thousand pieces delivered; and for silver coins NOT LESS THAN one piece for each two thousand pieces or any fractional part of two thousand pieces delivered.

The pieces so taken shall be enclosed, EACH BY ITSELF, IN AN ENVELOPE, AND THE WHOLE NUMBER OF PIECES FROM EACH DELIVERY SO ENCLOSED, TOGETHER WITH A CERTIFICATE THAT THE REQUIREMENTS HEREIN PROVIDED HAVE BEEN COMPLIED WITH, shall be carefully sealed up BY THE SUPERINTENDENT in an envelope ON WHICH SHALL BE WRITTEN the date of the delivery, the number and denomination of the pieces THEREIN CONTAINED and the amount of the delivery from which they were taken.

THE FORM OF THE CERTIFICATE TO BE SIGNED BY THE SUPERINTENDENT, COINER AND ASSAYER SHALL BE PRESCRIBED BY THE DIRECTOR OF THE MINT.

THE SEAL USED FOR THIS PURPOSE SHALL BE A SPECIAL SEAL ISSUED BY THE DIRECTOR OF THE MINT AND, WHEN NOT IN USE, KEPT IN THE PYX OF EACH MINT.

The sealed parcels containing the reserved pieces shall be deposited in a pyx, designated for the purpose at each mint, which shall be kept under the joint care of the superintendent and assayer, and be so secure that neither can have access to its contents without the presence of the other; and the pieces reserved from the coinage of each mint shall, in their sealed envelopes, be transmitted quarterly to the UNITED STATES TREASURER AT WASHINGTON, TO BE RETAINED IN HIS CUSTODY, UNOPENED AND WITH UNBROKEN SEALS, UNDER SUCH RULES AND REGULATIONS AS MAY BE PRESCRIBED BY THE SECRETARY OF THE TREASURY.

A record shall be kept at the same time of the number and denomination of the pieces so taken for the annual trial of coins and of the number and denomination of the pieces represented by them and so delivered, a copy of which record shall be transmitted quarterly to the Director of the Mint.

Other pieces may, at any time, be taken for such tests as the Director of the Mint shall prescribe.

[SECTION 3547, REVISED STATUTES, PROPOSED AMENDMENT.]

To secure a due conformity in the gold and silver coins to their respective standards of fineness and weight, ONE OF THE JUDGES OF THE SUPREME COURT OF THE DISTRICT OF COLUMBIA, WHO MAY BE DESIGNATED FROM YEAR TO YEAR BY THE PRESIDENT OF THE UNITED STATES, the Comptroller of the Currency, THE ASSISTANT TREASURER OF THE UNITED STATES AT WASHINGTON, THE ASSAYER OF THE BUREAU OF THE MINT, the assayer of the assay-office at New York, and such other persons as the President shall from time to time designate, shall meet as assay commissioners at the OFFICE OF THE BUREAU OF THE MINT, TREASURY DEPARTMENT, WASHINGTON, to examine and test, in the presence of the Director of the Mint, the fineness and weight of the coins reserved by the several mints for this purpose, on the second Wednesday in February, annually, and may continue their meetings by adjournment, if necessary.

If a majority of the Commissioners fail to attend at any time appointed for their meeting, the Director of the Mint shall call a meeting of the Commissioners at such other time as he may deem convenient.

IT SHALL BE THE DUTY OF THIS COMMISSION TO COUNT THE COIN CONTAINED IN EACH SEALED ENVELOPE, AND TO VERIFY THE CONTENTS OF THE SAME WITH THE ACCOMPANYING CERTIFICATE OF ITS CONTENTS, AND ALSO WITH THE RECORD TRANSMITTED FROM EACH COINAGE MINT TO THE DIRECTOR OF THE MINT.

SUCH A NUMBER OF COINS SHALL BE TAKEN FROM SUCH ENVELOPES AS MAY BE DETERMINED BY THE COMMISSIONERS, FOR ASSAY, AND THE REMAINDER RETURNED TO THE TREASURER OF THE UNITED STATES, TO WHOM ACCOUNT SHALL BE RENDERED BY THE CHAIRMAN OF THE COMMITTEE ON ASSAYING FOR THE NUMBER OF COINS TAKEN FOR ASSAY, TO BE RETURNED IN BULLION AT THE CLOSE OF THE ASSAY.

IF, UPON COUNTING, ANY SEALED ENVELOPE BE FOUND TO CONTAIN LESS THAN THE NUMBER OF COINS AS CERTIFIED, THE CASE SHALL BE REPORTED TO THE DIRECTOR OF THE MINT, AND THE SUPERINTENDENT OF THE MINT OF COINAGE HELD ACCOUNTABLE FOR SUCH DISCREPANCY.

DURING THE COUNT AND VERIFICATION OF THE COINS BY THE ASSAY COMMISSION THE SEALED ENVELOPES AND THEIR CONTENTS SHALL BE CONSIDERED IN THE CUSTODY OF THE TREASURER OF THE UNITED STATES, TO WHOM SHALL BE GIVEN A RECEIPT BY THE CHAIRMAN OF THE ASSAY COMMISSION FOR THE NUMBER OF COINS TAKEN FOR ASSAY.

IT SHALL ALSO BE THE DUTY OF THIS COMMISSION, BY SUCH EXAMINATIONS AND TESTS AS MAY BE DEEMED NECESSARY, TO ASCERTAIN WHETHER THESE COINS DO NOT DIFFER FROM THE STANDARD FINENESS AND WEIGHT BY A GREATER QUANTITY THAN IS ALLOWED BY LAW; AND IF IT SO APPEARS the trial shall be considered and

reported as satisfactory. If, however, any greater deviation from the legal standard or weight appears, this fact shall be certified to the President; and if, on a view of the circumstances of the case, he shall so decide, the officers implicated in the error shall be thenceforward disqualified from holding their respective offices.

AND FOR THE PURPOSE OF DEFRAYING THE PERSONAL EXPENSES OF THE MEMBERS OF THE COMMISSION, OTHER THAN THOSE IN THE EMPLOY OF THE TREASURY DEPARTMENT OF THE UNITED STATES, THE SAME MILEAGE SHALL BE ALLOWED TO EACH MEMBER FOR TRAVEL TO AND FROM HIS HOME AS IS ALLOWED BY THE REGULATIONS OF THE ARMY OF THE UNITED STATES TO OFFICERS OF THE ARMY WHILE TRAVELING ON DUTY TO AND FROM THEIR STATIONS, AND TEN DOLLARS EACH DAY WHILE SERVING UPON THE COMMISSION IN WASHINGTON, TO BE PAID OUT OF AN APPROPRIATION TO BE ESTIMATED FOR BY THE DIRECTOR OF THE MINT FOR EXPENSES OF THE ANNUAL ASSAY COMMISSION.

EXPENSES ON ACCOUNT OF ASSAY COMMISSION EACH YEAR FROM 1874 TO 1886, INCLUSIVE.

Year.	Amount.	Year.	Amount.
1874.....	\$1,329.92	Brought forward.....	\$8,972.57
1875.....	1,262.50	1881.....	1,005.19
1876.....	881.18	1882.....	607.15
1877.....	1,356.92	1883.....	1,111.01
1878.....	1,444.82	1884.....	1,016.77
1879.....	1,233.01	1885.....	1,170.67
1880.....	1,464.22	1886.....	1,547.89
Carried forward.....	8,972.57	Total.....	15,431.25

The estimates for this appropriation, so far as they have been traced at the present writing, have been \$2,000 a year.

The expenditure has varied according to the personal expenditures of the Commission, increasing in the ratio of the distance traveled to and from the homes of the several Commissioners.

The expenditure has in certain years, as in 1876 and 1882, been low as compared with the average, owing to the fact that members of the Commission were not selected, as in other years, with the purpose of securing a uniform geographical representation from different parts of the whole country.

EXTENSION OF FACILITIES FOR COINAGE, MINT AT PHILADELPHIA.

In the course of remarks under a previous heading it was incidentally pointed out that the minting facilities afforded by the mint at San Francisco are regarded by this Bureau sufficient to meet all requirements. The most modern of the four coinage mints, including the mint at Carson, it is of such magnitude as to admit of considerable expansion beyond any present necessities.

Not so, however, with the mints at Philadelphia and New Orleans, under the circumstance that both of these institutions are called upon to execute the bulk of the mandatory coinage of silver dollars, besides, at Philadelphia, a large portion of the subsidiary coinage, and the whole minor coinage. Public requirements for the two latter coinages, from time to time, are less pressing than the coinage of silver dollars only so far as this coinage is not mandatory. This, at least, has been the case during the last fifteen months.

The recent limitation of the bulk of the silver dollar coinage to the mints at Philadelphia and New Orleans has grown out of the expediency of providing for the storage of silver dollars in the immediate custody of the United States Treasury.

Provision having been made by Congress for the ultimate storage of

silver dollars in the vaults now in the course of construction at the Treasury Department itself, the expediency of coinage at the above-mentioned mints is determined by the measure of facilities for transport from the coinage mint to Washington, and the relative cost of the same as compared with the cost from different mints. On such grounds of expediency both of the eastern institutions have been called upon to the full extent of their present capacity for the execution of the whole mandatory coinage of silver dollars, except what small proportion of that coinage has from time to time been assigned to the mint at San Francisco when the other mints have been unable to fulfill the whole statutory requirement, as during the last year, when operations were contracted at the mint at Philadelphia for the renewal of its steam plant.

In the present report, as well as in previous fiscal reports, occasion has been taken to indicate the fact that, under recent requirements of coinage, the mint at Philadelphia has not only been overtaxed, but severely strained. And it has also been shown, in another part of this report, that the whole plant at that institution is not only antiquated, but lacking in efficiency for want of renewals of machinery and equipment. The new steam plant introduced into that mint is but the accomplishment of a single one of a number of improvements the necessity of which has been felt for several years. The institution as a whole is in great need of enlargement and remodeling, preliminary to a further and more modern equipment for the important service which it is imperatively called upon to perform.

Upon a careful consideration of what is the duty of the Director of the Mint under such circumstances, I am led to urgently recommend that immediate steps be taken toward an enlargement of the edifice of the mint at Philadelphia by the addition of a third story and perhaps the enlargement of the basement by extension to a line with Chestnut street. A design has been voluntarily prepared by the same engineers and architects to whose firm was committed the supervision of the recent change in the steam plant of the mint. This plan, with some modifications, has much to commend it. It is believed that such enlargement can be made, in conformity with the present order of architecture, to the improvement rather than to the injury of its present appearance. The want of height in the proportions of the present edifice—one of its notable features—has now become all the more striking from the erection in its vicinity of lofty buildings, the effect of which is to darken its interior and to dwarf its architecture.

The recommendation is now made that the Supervising Architect be requested to prepare plans for the extension of the edifice of the mint at Philadelphia in the manner proposed, and to prepare estimates in accordance therewith, for the consideration of the Department, as a basis for such recommendations on the part of the Department as may afterwards be found expedient to make to Congress.

From the fact that measures for the extension of the ground area of the mint at Philadelphia have repeatedly been presented to Congress without its concurrence, I am bound to assume that no similar proposal would be sufficiently practicable to meet the present exigency in the case of that mint—now the most important mint of the whole service, as always it has been, and as constituted by numerous sections of law which have been perpetuated from the period previous to 1873, when it was alone the Mint of the United States, and all other mints its branches. Indeed opportunities presented from time to time for the acquisition of ground

space for an extension of this mint, at a moderate cost, can hardly be expected to recur.

Nor was it considered that such an expedient as the sale of the present very valuable site and the purchase of a larger one of less value could receive the approval of Congress in time to meet recent emergencies, such as the necessity for the new steam plant, erected by authority of Congress during the past summer.

Notwithstanding the recent renewal of steam plant, at a cost of some \$55,000, and the present exigency for further renewals of a more portable kind, it may not be held that fixed improvements of this description really preclude the subject of change of site from further consideration. As alternatives therefore from the addition of a third story and the extension of the front basement, it becomes my duty to make succinct mention of two other expedients which have previously been proposed, namely, (1) the sale of the present very valuable site and purchase of a larger one of less relative value; or (2) the costly acquisition of new ground adjoining the present site.

#### DEVICES AND DESIGNS OF COINS.\*

The prevailing laws in respect to the devices and designs of current coins of the United States are those of the Coinage Act of 1873, namely, sections 3517 and 3510 of the Revised Statutes, as follows:

SEC. 3510: The engraver shall prepare from the original dies already authorized all the working-dies required for use in the coinage of the several mints, and, when new coins or devices are authorized, shall, if required by the Director of the Mint, prepare the devices, models, moulds, and matrices, or original dies, for the same; but the Director of the Mint shall nevertheless have power, with the approval of the Secretary of the Treasury, to engage temporarily for this purpose the services of one or more artists, distinguished in their respective departments of art, who shall be paid for such service from the contingent appropriation for the mint at Philadelphia.

SEC. 3517: Upon the coins there shall be the following devices and legends: Upon one side there shall be an impression emblematic of liberty,† with an inscription of the word "Liberty" and the year of the coinage, and upon the reverse shall be the figure or representation of an eagle, with the inscriptions "United States of America" and "E Pluribus Unum," and a designation of the value of the coin; but on the gold dollar and three-dollar piece, the dime, five, three, and one cent piece, the figure of the eagle shall be omitted.

Section 3517 is a re-enactment of the thirteenth section of the act of January 18, 1837, except as to coins subsequently introduced into the coinage.

The devices of coins of the United States, including the subsidiary coins, are prescribed by this section, 3517, and by the provision in section 3510, which practically limits both designs and devices to such as were employed at the time of the passage of the Coinage Act of 1873. The joint effect of the two sections is to render mandatory the preservation of present designs as well as present devices.

By the laws of February 21 and March 3, 1853, was prescribed the weight of subsidiary coin then authorized. It was also by the latter that the Director of the Mint was "empowered, with the approval of the Secretary of the Treasury, to engage temporarily," for the purpose of

\* In the following text a distinction will be drawn between the terms *device* and *design* as applied to coins, and the former employed, as in the Revised Statutes, in the sense of emblem; the latter, as in its ordinary application to works of art. In the coinage laws of the United States the term *design* does not appear, the term *model* having been adopted to the same purpose.

† According to precedent, the phrase "*Upon one side there shall be an impression emblematic of liberty*" has been interpreted to provide either for a head of Liberty or for a figure of Liberty.

procuring devices, "the services of one or more artists, distinguished in their respective departments," to be paid from the contingent appropriation for the mint at Philadelphia. The language of section 3510 Revised Statutes, as in the Coinage Act of 1873, was, in respect to this provision, essentially the same as in the laws of 1853.

If any authority of law was found for the change of device of the gold dollar in 1854 from that of 1849, for the complete change in design of the silver dollar in 1878 from the design of 1866, or for the 5-cent nickel piece in 1883 from the design of 1867, and of the latter from that of 1866, such authority must have been found in provisions of law subsequently codified into section 3510, as above cited. So too with regard to other minor changes.

Whatever the intention of this section may have been held to be by Director Linderman, the same executive officer of the mint by whom, in co-operation with Comptroller of the Currency John Jay Knox, the Coinage Act was mainly collated and draughted, the terms of this section absolutely fail to provide for change of design in existing coins.

The authority which is given by section 3510 Revised Statutes to the Director of the Mint, with the approval of the Secretary of the Treasury to fix designs of new coins in conformity with prescribed devices, is not believed by me, nor by such law officers of the Government as have been consulted, to admit of such a construction as also to provide for changes in the designs of existing coins.

In a speech in the Senate by the present chairman of the Finance Committee, December 5, 1883, on Senate bill 226, the artistic execution, as well as other characteristics of our coinage, was ably criticised, and the omission of the law pointed out to provide for its improvement, especially in the designs adopted for regular coinage dies.

"The Director of the Mint" [said Mr. Morrill], "the coiner and engraver, do not appear to have any discretion in regard to existing coins, which must be made from 'the original dies already authorized,' and 'conformable in all respects to the law,' and mainly the law of eighty years' standing. It is, even under the law of 1873, only when new coins or devices are authorized that the Director of the Mint has power to seek any improvement through the services of competent artists. This law was in the right direction, but wholly inoperative, as it has no application except 'when new coins or devices are authorized.' No new coins being authorized, no changes can be made in the old matrices and dies; and the engraver, however expert and skillful, has no possible opportunity to show any rare skill or advancement in the perfection of his work."

Yet my official attention has been called by numerous intelligent citizens to the inartistic quality of the designs upon several of our current coins, in the hope that means may be found, if only in the precedents above cited, for the improvement of such coins of the series as may be decided to stand most in need of it.

Under the circumstances above set forth, it becomes clear that the Director of the Mint is without official resources in this matter.

Having become aware of what I believe to be a popular desire for an improvement of the coinage in respect to the present designs (distinguished from devices) as prescribed by law, I deem it my duty to here invite attention to this matter, and to offer such suggestions as seem to be proper to the office now held by me.

It is sometimes considered that Congress has advisedly omitted to provide for an execution of its coinage in keeping with the art of the day, for the reason that any unnecessary change of design is contrary to the interests of the public. Whether this is so can hardly be said. It is open to question, however, how far artistic merit in coins should be sacrificed to custom.

It has also been urged that readiness of identification of coins is incompatible with changes in their designs. This can hardly be denied in the case of frequent changes; but again the question arises whether a coin for any reason unsatisfactory ought to be perpetuated.

The coins of a nation are for the sole use of the nation itself. A knowledge of the commercial status of coins shows that no nation has anything to expect in the way of consideration for its coins outside of its own borders.

As shown in my report for 1885 on the Production of the Precious Metals in the United States, the foreign coins which come to these shores are hastened to the melting-pot at our several mints and assay offices, while no more consideration is accorded to our own coins at foreign mints.\*

In the eight years ended June 30, 1884, no less than 1,353,822 English sovereigns were melted at the United States assay office at New York, or an average of £169,853 a year. In three years ending June 30, 1887, English sovereigns of the value of \$1,992,871.45 were melted at the same institution.

In the eleven years ended in 1885 the same institution melted foreign gold coins of a total value of \$122,464,824. (See Annual Report, Director of the Mint, 1886, p. 151.)

I have also shown that it is fresh coin, and not worn coin, which, when diverted from domestic circulation and turned into channels of foreign trade, is at foreign hands speedily consigned to the melting-pot.†

The coins of all commercial nations are in part produced from the melting of coins of other nations. It is as bullion only that the nations of the world treat each other's coins.

The consideration sometimes given to the commercial or foreign standing of our coins outside of the United States is, under the familiar circumstances above indicated, one which, from a technical or practical point of view, does not apply at least to the form or execution of coins, and one which in my opinion ought not to weigh against a domestic interest in the amelioration of the coinage itself.

No encouragement on the part of the Government of exportation of United States gold coins can reasonably be asked, especially as facilities for exportation of gold are provided by law in the issue of gold bars in exchange for gold coin. Nor should anything of domestic interest or importance be deferred to a foreign employment of United States silver coins, as in the case of certain subsidiary coins. For it is safe to assume that substantially all for which a limited temporary circulation is found in several other countries of the western continent, eventually find their way back to the United States in a worn condition for redemption at a considerable loss to the Treasury for recoinage.

No silver coin of the United States has longer any claim to recognition as an international coin, like the dollar of Mexico and the Levant thaler of Austria, or such as the now historical trade-dollar was designed to be, and had well-nigh become—as now shown by the absorption of four-fifths of its whole coinage by foreign countries.

It is the public at home alone, therefore, that is concerned in the means provided by the Government for the preservation of the types of its coins by fixing their devices. As long as these laws stand it is hardly possible that any changes of designs can so alter the type or *facies* of our coins as to raise against such changes the objection referred to.

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\* *Vide* p. 97.

† *Op. cit. sup.*, p. 98.

It does not seem to me that wonted use of coins with unworthy or insignificant designs of certain emblems or devices will ever weigh with the public of the United States against a change for the better in design, especially where any change of device is out of the question.

If objections as sometimes heard in this country against a change in the designs of any of the coins of a nation are real and valid, how much greater their force in the case of countries where neither devices nor designs are prescribed by law, and where either or both may be changed at the will of a personal government. In all monarchies both kinds of changes may be made at the will of the sovereign. All know how frequent have been such changes in the coins of the several nations of the world in almost every period of their history. To these very changes coins owe alone their incomparable historical value.

The designs impressed upon the coins of any nation, ancient or modern, are accepted as an expression of the art of their time. But few citizens, who, with an artistic sense, have carefully scrutinized the current coins of this Republic, would consent to accept as a standard of excellence for their own day and generation almost any of the present compositions of statutory devices. The inferiority of our coinage to the same kind of work by almost every other advanced nation of the earth, as well as to the well known work of numerous able designers in relief at home, seems to be perceived by all who have given attention to the subject, and to be keenly felt by many as unworthy of the development which the arts of sculpture and design have here attained.

The series of United States coins, past and present, taken as a whole, is not without meritorious designs, even within the narrow limits of traditional, and later statutory, devices. But whatever art-value be attributed to any of the series seems to be in impressious from certain long-superseded dies.

It sometimes happens that the present subject is discussed wholly from an artistic point of view, and that accordingly too much is exacted in the way of improvement. It does not, indeed, seem to be always understood that, unlike medals, coins are no longer struck in high relief, on which so much of the beauty of design in the coinage of ancient Greece is found to rest.

The last legislation by Congress in the matter of devices, designs, and legends of United States coins was a part of the Coinage Act of 1873, and by enactment of old laws—except as then provided for the 3-dollar piece, subsidiary and minor coins. This legislation did not go beyond the perpetuation or adoption of the whole series of designs as then found, and precisely as then employed. This was at least the most direct way out of a difficulty, such as would present itself to any legislative body, called upon to decide a question of art, æsthetics, or numismatology. And it seems not improbable that, as the most practicable alternative from any future difficulty of a similar kind, optimistic views would again prevail.

Whenever any measure for changes in the devices or designs of existing coins be adopted, it will be by act of Congress. And whenever such a measure comes to be practically entertained by Congress, one of the first questions for decision will be whether its action shall be executive as well as legislative—that is, whether it shall reserve to itself final action as to the changes themselves; or, as an alternative, whether it shall delegate the determination of their precise character to an executive branch of the Government. In the former case, a measure of this kind would, in the ordinary course of legislation, be first committed to the Finance Committee of the Senate, or to the Committee



on Coinage, Weights, and Measures of the House of Representatives, or to both, if introduced by joint resolution.

In the latter case, under ordinary procedure upon such questions, the action of Congress would take the form of an amendment of prevailing sections of law specific as to the scope and limitation of power delegated, and as to the way and means for its exercise. Power delegated by Congress to an executive branch of the Government to make any external changes in coins would naturally be committed to the same administrative officer of the Treasury Department, namely, the Director of the Mint, to whom is committed the "power, with the approval of the Secretary of the Treasury, to engage temporarily" "the services of one or more artists distinguished in their respective departments of art" for the preparation of designs, or for the artistic execution of devices when new coins or devices are authorized.\*

If new devices, or, indeed, only new designs, be authorized by Congress by amendment of section 3517 Revised Statutes, the executive provisions of section 3510 prescribe ready to hand a course which, if intelligently and earnestly followed, is perhaps as well devised as practicable in a representative government to satisfy the public requirement of an artistic execution of our coinage in keeping with contemporaneous art.

If new designs for present, or for new statutory, devices be invited, the question naturally arises, how far competition shall be general or public.

That a public competition for designs in relief would be productive of satisfactory results does not appear likely, and is certainly contrary to the experience of this Bureau in the way of suggestions from the public in such matters. It is believed, in agreement with section 3510, Revised Statutes, that desirable results are rather to be sought from the special engagement of the services of artists "distinguished in their respective departments of art."

The question now arises who shall decide between the claims of artists more or less distinguished. This onerous responsibility falling, in the terms of section 3510, upon the Director of the Mint, is virtually shared with the Secretary of the Treasury. Perhaps this is the only division of responsibility practicable under an official limitation.

In the selection of designs, however, this responsibility might be further divided, not necessarily by law, so as to admit also of the services of judges distinguished for their discernment in matters of art and design, such judges, on the invitation of the Secretary of the Treasury, to act with the Director of the Mint in the acceptance or rejection of designs submitted.

The above suggestions are made not without full recognition of the fact that the voice of every citizen of the United States is heard upon a matter of art or æsthetics such as a design employed on a familiar coin of the Republic; or of the fact that while distinguished artists stand ready to offer designs, no public officer could reasonably be called upon alone to pass upon the professional merit of artists or the art-value of their productions.

#### IRREGULAR PRODUCTIONS OF THE UNITED STATES MINT: CABINET COINS, TRIAL PIECES, AND EXPERIMENTAL COINS, POPULARLY KNOWN AS PATTERN PIECES.

Section 5460, Revised Statutes, provides a severe penalty for debasing, by officers of the Mint, any of the gold or silver coins, or for making them worse as to the proportion of fine gold or fine silver, or of less weight

\* Sec. 3510 R. S.



or value than pursuant to law. This law was originally enacted March 3, 1825.

The denominations, standards, and weights of coins are declared by section 3516, Revised Statutes; the devices and legends provided by section 3517. The designs, as distinguished from devices, are fixed by the Coinage Act of 1873; section 3510, Revised Statutes, as those found in the original dies already authorized at the time of its enactment (February 12, 1873).<sup>\*</sup> The same section provides for new designs when new coins or devices are authorized. No change in designs of devices of existing coins is at present provided by law.

Coins can not be issued under the coinage laws of the United States by any mint, except as specifically prescribed as to weight and fineness (and incidentally as to diameter and size);<sup>†</sup> and also as to devices, designs, and legends.

Yet it is a well-known fact that, since the enactment of the present coinage laws, as before, numerous pieces known as cabinet coins have been in circulation among numismatists, coin collectors, and coin dealers, for even the permanent existence of which pieces no justification can be found in mint practice, nor authority of law for their manufacture—much less for their issue or escape from the mint. Such pieces may be generally described as follows, under the terms by which they are popularly known:

1. "Mule-pieces" or "hybrids"—pieces struck from a regular coinage die or dies, of which the obverse or reverse, or both, is other than authorized by law for coin of the same denomination, or other than employed in the regular coinage of the same denomination of the same date.

2. False-metal pieces—or replicas or copies of coins in a metal or alloy or of a weight and fineness other than prescribed by law.

3. Trial pieces—or impressions in soft metal to test a die or dies, and not destroyed as required by regulation.

4. Experimental pieces—struck for mint purposes from regular coinage dies in experimental metal or alloy.

"Restrikes," often a subject of question among coin-collectors in the case of rare coins, possible only by a most flagrant violation of the coinage laws and mint regulations, involving not only failure to deface obverse dies at the expiration of the year of date, but in the act of reproduction falsification of dates, are not here scheduled among the well-recognized unauthorized cabinet pieces, as in no case of alleged reproduction of certain rare American coins from perpetuated or restored dies, so far as I am aware, has any such charge ever been proved against any of the mints of the United States.

That the present subject is not a new one is evidenced by reference to almost any important numismatical work published in the United States, or to the files of such special publications as, notably, the *American Journal of Numismatics*, the *Coin Collector's Journal*, and even trade lists and catalogues of private collections. Such a reference can not fail to show that the irregular productions of the United States mint have been recognized, not without grave apprehension on the part of the public, as involving operations at least not imparted to the public, and under any circumstances open to serious objection. This appears from criticisms and animadversions found in numerous

<sup>\*</sup>The adoption of new designs in the case of the silver dollar in 1878 and of the five-cent nickel piece in 1883, was not in accordance with the original act (February 12, 1873, section 8) from which section 3510 was codified.

<sup>†</sup>The limitation of diameter and size follows from section 3510, which provides that "all working dies required for use in the coinage of the several mints" shall be prepared "from the original dies already authorized"—that is, from such as were employed at the time of the passage of the act (February 12, 1873).

writings, from which it is unnecessary to furnish citations.\* But it will be here proper to remark that no little difficulty presents itself in a review of popular references to the subject in hand for want of agreement with mint usage in the employment of technical terms.

And it may be considered that, whatever on the part of a few persons outside of the mint in a quest of the "unique" has been the encouragement of the production of irregular compositions at the mint, it is scarcely conceivable that any encouragement would have been found but for the employment in mint regulations and circulars of an undefined, if not an indefinite, terminology of a technical character in respect to at least the issue of cabinet coins. But the same extenuation does not suggest itself in favor of persons in the mint service, responsible for these compositions, especially in the failure of official record, or of other official evidence to show that their production has been regarded otherwise than of a personal or privileged character.

The condition of "fraudulent intent" has often been supposed to qualify the first clause of section 5460, as well as the second which refers alone to such acts as the defacement, increase, or diminution of weights used at the mint. It is obvious that only under such a mistake on the part of all who have been engaged in the production of so-called false-metal pieces for cabinet purposes and for tokens, could immunity from the severe provisions of this section have been found for its violation in such instances—as if in the extreme departure from the letter of the law were to be found security against violation of the spirit and intent.

The attention of this Bureau having been directed to the production in times past, and to the present circulation among coin collectors, coin-dealers, etc., of unauthorized and unlawful pieces, more or less in semblance of regular coins of the United States; or of irregular impressions from coinage and experimental dies, alleged to have been struck since the date of the Coinage Act of 1873, and subsequent mint regulations prohibiting their issue, the following circular was printed for the information of the public:

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
Washington, D. C., July 1, 1887.

The emission of impressions of experimental dies, whether in soft metal or in metal of the same weight and fineness proper to coins of the same denomination, is unlawful except in the case of pattern pieces of such denominations of coins as are coined for general circulation during the calendar year of their date.

All impressions taken in copper, bronze, or other soft metal from an experimental die, to prove the die, are required to be destroyed, and the die itself to be defaced at the end of the year of its date.

Any experimental coin or impression, in soft metal, from a die prepared by the

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\* "The whole business of mint patterns," says a writer in *The Nation* in 1879 (using the term *pattern* in a popular sense), "has been very singularly managed, and, to some extent, is so still. It has been estimated that in 1859 and 1860, \$50,000 worth of patterns were struck and disposed of at the mint, without any benefit to the Government at whose expense they were coined. During Mr. Lincoln's administration these abuses stopped, but of late years they have begun again. For example, numerous pattern dollars, struck between 1869 and 1874, have since then turned up and passed into the hands of collectors, none of which appear in the Government collection." (*American Journal of Numismatics*, XIII, 1879, p. 55.)

An estimate of the value of irregular pieces issued in two years from the mint at Philadelphia, as large as \$50,000, must, in the absence of specific explanation, be taken as numismatic or trade value apart from intrinsic value, of which it is no measure.

There is, indeed, no reason to believe that the mint has at any period sustained loss of precious metals from irregular issues, their intrinsic value, as it is safe to assume, having in all cases been made good to the special department of the mint from which they took source.

United States mint is required to be destroyed as soon as the purpose for which it was struck is subserved.

The above provisions, prescribed by the "General Instructions and Regulations in relation to the Transaction of Business at the Mints and Assay Offices of the United States," approved by the Secretary of the Treasury, have been in force since May 14, 1874.

The striking of a piece in the semblance of a United States coin in a metal or alloy, or of a weight and fineness, other than prescribed by law, is in violation of section 5460 of the Revised Statutes.

The emission or offer for sale or exchange of an impression from any die of a coin of the United States, or of a proposed coin of the United States, bearing a legend as of a coin of the United States, but with a device or devices not authorized by law, whether such die has been prepared at the mint of the United States or elsewhere, is contrary to the provisions of sections 3517 and 5461, Revised Statutes.

No impression from any coinage die of the United States struck in other metal than that authorized by law, or of a weight and fineness other than prescribed by law (Revised Statutes, 3513, 3514, 3515), nor pattern piece bearing a legend of a coin of the United States, and bearing a device or devices not authorized by law (Revised Statutes, 3516, 3517, *vide* Mint Regulations), should be in existence longer than required for the lawful purpose for which it was authorized to be struck.

Any emission, for private or personal use or possession, from the mints of the United States of pieces of the character above specified has been in violation of the coinage laws of the United States.

JAMES P. KIMBALL,  
*Director of the Mint.*

Approved:

C. S. FAIRCHILD,  
*Secretary of the Treasury.*

Some question having been raised as to the technical significance of certain terms, used as in the above circular according to their popular acceptation, a supplementary circular has been printed, in which these mint terms have been defined in accordance with their original technical adoption:

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
*Washington, D. C., October 3, 1887.*

Definitions of the following technical terms used in Mint regulations and circulars are hereby communicated for the information of numismatists, collectors of coins, coin-dealers, etc.:

1. *Proof*.—A coin specially struck by hand-press instead of by steam-press from a polished planchet.

2. *Proof-set*.—A complete set of proofs of current coins.

3. *Pattern-piece*.—An early specimen or proof from a newly adopted coinage die or dies.

4. *Trial-piece*.—An impression in soft metal to test an experimental die or dies.

5. *Experimental piece*.—A piece struck from regular dies in experimental metal or alloy, or from experimental dies with experimental legends, devices, or designs.

Pieces 1, 2, 3, as above described, are issued by the mint at Philadelphia on terms and in the manner set forth in the following extract from Instructions and Regulations:

"Proof-coins and pattern-pieces may be struck and sold subject to these regulations.

"The price of medals, proof-coins, pattern-pieces, etc., shall be fixed by the superintendent of the mint, with the approval of the Director.

"No coins or pattern-pieces shall be struck after the year of their date, or in any other metal or alloy than that in which the coin is issued or was intended to be issued, except experimental pieces in copper or other soft metal, to prove the dies, under the direction of the superintendent.

"The dies shall be defaced at the end of each year, and such impressions as the engraver may find necessary to take while preparing the dies shall be destroyed in the presence of the superintendent when the dies are finished.

"When a pattern is adopted and used in the regular coinage in the same year, it will then be issued, as a proof, at a price near its current value, or if it comes out early in the year, it will be placed in the regular proof-set.

"The superintendent will furnish, without charge, on application therefor, a pattern-piece to any incorporated numismatic society in the United States. In such cases, if the pattern is in gold or silver, the value of the metal will be required." (Edition of 1874, p. 29; 1880, p. 15; 1887, p. 20.)

In the case of a pattern-piece (3), if it comes out early in the year of its date it takes its place in the regular proof-set of that year. As none other than a specimen of the regular coinage of the current year can enter into a proof-set or be sold as a

proof, the term "pattern-piece" is employed in all editions of Mint regulations and in Mint circulars in no other than the limited sense above defined.

Trial and experimental pieces (4, 5), struck for mint purposes only, as prescribed by the above sections, cannot be issued, circulated, or sold.

Pieces popularly known as restrikes, false-metal pieces, mule-pieces, or hybrids, and metallic replicas or copies are prohibited by the Revised Statutes.

Approved:

C. S. FAIRCHILD,  
*Secretary of the Treasury.*

JAMES P. KIMBALL,  
*Director of the Mint.*

The first printed "Instructions and Regulations in Relation to the Transaction of Business at the Mints and Assay Offices of the United States," under the Coinage Act of 1873, were under date of May 14, 1874.

The specific provisions above cited, inhibiting the issue, and prescribing the narrow limits for the striking, of pieces from coinage and experimental dies, contained in all subsequent editions of Instructions and Regulations, were in that edition first prescribed.

Whatever may have been the lack of specific regulations as to the irregular manufacture and use of coinage dies at the mint at Philadelphia previous to the passage of the Coinage Act in 1873, prohibitory provisions of law then passed into the statutes, and were promptly supplemented by specific Mint regulations in 1874. To the mint at Philadelphia, as the only mint in the United States in which the operations of engraving and die-sinking have ever been carried on, has alone been attributed the irregular composition of dies or pieces, or the unauthorized employment of regular coinage dies—in a few instances not without the sanction of this Bureau, though as it appears without further authority.

A list of trial-pieces and experimental coins struck in the Mint of the United States at Philadelphia from 1792 to 1885 has been compiled by the curator of the cabinet of that mint. This enumerates and describes 287 pieces, 81 of which are referred to dates subsequent to the passage of the Coinage Act of February 12, 1873. Ninety-three pieces are ascribed to dates subsequent to the publication—by way of safeguard against their repetition or multiplication—of specific regulations for their production, and of the prohibition of their preservation and issue.

A published list from another well-known authority describes 513 pieces, including pieces in false metals from regular dies, so-called "hybrids," "whim-pieces," and other caprices.

The first 342 pieces of the latter list, brought down to the year 1870, are described by a well-known authority in such matters as not being really "patterns," as this term is understood by him, but so-called "falsities," namely, false-metal pieces, "mule-pieces," and other unclassified vagaries; not inaptly, though mildly, described by the same authority as "eccentricities of the United States Mint."\* The remaining 171 pieces are of the same general description.

It is to be observed, however, that the term "pattern" has during the last twenty years passed into common use, so as to be applied mainly to trial-pieces and experimental pieces technically and properly understood. The truth is, as indicated by the Mint circular of October 3, 1887, that there is nothing to distinguish a pattern, as an authorized issue from the United States Mint, from a "proof coin;" a pattern-piece being simply an early specimen or proof from a newly adopted coinage die or dies, as already defined.

Thus a pattern of a given date may, as prescribed, take its place in the proof-set of coins for the same year.

\* "United States Patterns versus Falsities." *American Journal of Numismatics*, XX, 1886, p. 87. *Coin Collector's Journal*, XII, 1887, p. 6.

The present subject is one on which the public has little or no information, probably from the circumstance that, in spite of law and regulation, such pieces have been made at the mint and suffered to circulate as cabinet pieces. It is not strange, therefore, that a confusion of terms characterizes almost everything to be found in print on the subject of these irregular productions. And I may here take occasion to remark that this is one of the greatest difficulties which this Bureau has met with in its efforts to aid the discrimination of the public against their circulation. Means, however, have been taken to render impossible in the future the production, as well as the issue, of irregular and unlawful pieces in semblance of coin of the United States, or of other unauthorized pieces stamped with legends and devices as coins of the United States.

James Ross Snowden, in his *Description of Ancient and Modern Coins*, published in 1860, while he was Director of the Mint, heads a chapter on Experimental Pieces of the United States Mint "Unauthorized Coins of the United States." "Since the establishment of the United States Mint," says Director Snowden, "many coins have made their appearance therefrom which do not belong to the national authorized series, being of an experimental character, and not intended for general circulation."

Subsequent to the period when Director Snowden's book\* was published the term "pattern-piece" seems to have come into popular usage, not without more or less official sanction, so as to include all the irregular or unauthorized productions of the mint. Previously applied in the sense of the present term "proof," a distinction was made between the two terms in the printed mint regulations of 1874. Thus in the tabular statement† by Director Snowden of the "number of pieces coined at the mint of the United States in the several denominations of coin from the commencement of its operations to the 31st December, 1859, inclusive (including 'pattern-pieces')," the term *pattern piece* has the significance of *proof*, and the true distinction from *experimental piece*, as here drawn, is further made in the text (see p. 116). So, too, in the books of the medal-clerk, where the term was used in the same sense down to the year 1874. Yet the few irregular issues of the mint now to be found in the cabinet of coins at the mint at Philadelphia have for many years been exhibited under the erroneous classification of "patterns."

Of the great number of unauthorized impressions described in the list above referred to, none are strictly patterns in the original technical sense of the term, and as employed in mint regulations and circulars issued in 1874 and subsequently. All that are not hybrids or other vagaries or "whim pieces," are either trial impressions in soft metal, from a die or pair, or experimental pieces, of which there are several varieties.

Numerous hybrid pieces are in false metal. The "false-metal pieces," or copies of regular gold and silver coin in base metal, especially of the larger denominations, including not a few pieces produced by the "muling" of regular dies, number from the year 1792 to 1885 some 185 varieties, of which some 57 are of dates from 1873 to 1885, inclusive. Many of the so-called "whim-pieces," mostly in soft metal, differ from "false-metal pieces" only in minor alterations of regular dies by slight changes in legend, device, or design, or, again, by muling of one or both of a pair of dies. Almost every change and combination seems to have been pro-

\* *Ancient and Modern Coins in the Cabinet Collection at the Mint of the United States*, Philadelphia, 1860, p. 116.

duced which fancy or caprice might suggest. Such nondescripts or "whim pieces" fail of any identification as experimental pieces except in coin of the smaller denominations, the larger being scarcely without exception in false metal.

The same general description applies to the printed list of another collection, many specimens of which are found in both collections. This list comprises 232 pieces, of which some 126 are impressions in false metal, 78 of this number being false-metal pieces bearing dates from 1873 to 1885. Of the 126 pieces in false metal, 29 are "false-metal pieces" struck from regular coinage dies. Eleven of this number are of date between 1873 and 1885, inclusive.

The extent to which the irregular productions of the Mint, as described in catalogues like those above referred to, have been repeated is unknown to the writer. Some of them are described as unique, and probably have so circulated until discovered to be otherwise. Several collections of the same general description are known to connoisseurs. I am led to believe that the Davis list can be used as a check-list for them all, with the omission of few pieces in some collections still considered as unique. The temptation to multiply irregular productions, the only value of which in the estimation of collectors rests upon the quality of being unique, is a temptation not likely to have been resisted by those from whose hands they originally passed.

Probably the most objectionable, and certainly the most flagrant, examples in the lists above referred to are the numerous so-called false-metal pieces. The production of such pieces is clearly in violation of specific coinage laws in force previous, as well as subsequent, to the Coinage Act of 1873.

(1) Under date of October 22, 1863, a set of experimental coins for the years 1862 and 1863 was ordered by the Secretary of the Treasury to be furnished to Hon. George Opdyke, mayor of New York, described as follows: Half-dollars and quarter-dollars in silver, and the series of gold coins struck in copper, all bearing the legend "In God we trust"; this legend being in advance of its adoption in the year 1865. This was some ten years previous to the Coinage Act of 1873.

(2) On the 28th of December, 1877, on the recommendation of the Director of the Mint, the Acting Secretary of the Treasury authorized the production, for the Committee on Coinage, Weights, and Measures of the House of Representatives, of sets of experimental pieces composed of Dr. W. W. Hubbell's compound of gold, silver, and copper, patented by him as a new alloy under the name of "goloid," the value of the pieces to be reimbursed to the Mint.

There is evidence that experimental coins of this description were informally sold at the mint at Philadelphia under limitations of a personal, rather than of an official, character, but with what authority or official sanction has not in my examination of the present matter thus far appeared.

The first instance, so far as it affords examples of pieces in soft metal, is an instance of trial pieces such as are ordinarily struck to test the dies. The other impressions in the same set are examples of experimental pieces properly defined—that is, they are in regular alloy and from experimental dies, the whole set being from dies of which the designs were the same as then adopted but with a new legend as subsequently adopted.

The second instance is not to be considered as an example of so-called false-metal pieces, the "goloid" sets having been of an intrinsic value corresponding to their nominal value, and of the nature of experimental

pieces, the striking of which was justifiable for legislative or mint purposes only. For the production of false-metal pieces from regular coinage dies, the authority of the Secretary of the Treasury has thus far been traced in a single instance only.

(3) It appears from the files of the office of the Secretary of the Treasury of the date of May 13, 1868, that four sets of pieces in aluminum were struck at the mint at Philadelphia from the whole series of coinage dies of that year, for, and at the instance of, the Secretary of the Treasury, and at his expense for material.

There is recent evidence that one set of the same description and date passed into other hands. It therefore seems likely that at least one additional set was struck at the same time and for some other purpose, for which, in that case, no authority or explanation has been found upon record.

Of the above instances, the only ones on record in the files of this Department, as far as searched, where the authority of the Secretary of the Treasury has been traced for permanent pieces of any kind in base metal, the third instance is the only example of an authorized specific production of false-metal pieces, strictly defined.

No justification of any kind can be found for the great number of such pieces now known to be in circulation as cabinet pieces among numismatists, coin collectors, and coin dealers. Nor can it be learned that pieces of such description, nor indeed trial or experimental pieces of any kind, have since 1873 been generally issued or publicly sold over the counter at the mint at Philadelphia. Neither the official records nor books of that institution, nor the personal statements of several of the present officers whose services date back beyond the passage of the Coinage Act of 1873, afford at present any knowledge of the public sale or general issue of other than patterns of adopted, and proofs of current, coins.

In a communication to the superintendent of the mint at Philadelphia, under date of February 26, 1875, from the Director of the Mint, the same officer by whom was framed the technical portions of the Coinage Act of 1873, as well as the Instructions and Regulations of 1874, it will be observed that although the terms "pattern dies" and "pattern pieces" are obviously used in the popular or colloquial sense of trial or experimental dies and pieces respectively, indication is found, in the absence of anything to the same purpose of a more formal character, that, in agreement with the letter of the instructions and regulations then in force, specimen pieces of any kind, except of coin authorized by law, were not understood by this officer to be then struck for sale.

The communication referred to is as follows:

\* \* \* I desire to be informed what the custom of the mint is respecting the specimen or pattern dies in cases where the coin for which they are intended are not issued. According to my recollection, specimen pieces are not struck for sale unless the coin is authorized by law. \* \* \*

Under date of February 27, 1875, the superintendent of the mint at Philadelphia communicated, in answer to the above inquiry, the following reply:

Referring to your letter of the 26th instant, inclosing an inquiry \* \* \* for pattern pieces of the proposed 20-cent silver coin, I have to state that our rule has been not to strike for sale specimen pieces of coins not authorized by law, without the sanction of the authorities at Washington. There have, therefore, been no pattern pieces "struck" of the coins referred to, except those forwarded to you for the use of the Finance Committee of Congress and the cabinet and officers of the mint. There have been none for sale. \* \* \*



Trial and experimental pieces which found their way into the coin collection of the mint at Philadelphia, have, as I am credibly informed, occasionally been issued as cabinet pieces in exchange for specimens of coin.

Within the experience of the present administration of the mint at Philadelphia, and also of this Bureau, nothing had occurred previous to the last half of the fiscal year 1887 to raise a question as to the legality and propriety of certain precedents and practice, so far as these were then believed to have been duly authorized, in the matter of the production and disposal for numismatical purposes of pieces to which the term "patterns" has been colloquially, commonly, and, as it has since proved, indiscriminately and erroneously applied. One trial dime of 1792, and one experimental 20-cent piece of 1874, found in duplicate in the coin-cabinet of the mint at Philadelphia, were therefore suffered, as late as December, 1885, to pass beyond the walls of that mint, in exchange for a certain rare gold coin much coveted for its coin-collection. This transaction, which was upon the formal recommendation of the curator for many years in charge of that cabinet, passed unquestioned on grounds further than those of simple expediency.

Only since the present remarks were written and in readiness for the printer, has the above incident been reviewed, not too late, it is believed, to restore the unauthorized pieces to the custody of the curator. According to Instructions and Regulations in force since 1874, such pieces should not have been preserved, and as they are duplicates, these, at least, should now be destroyed.

How far the sanction of this Bureau may be presumed to have been found for the production and private issue of trial and experimental pieces in soft metal and otherwise since 1873—in direct contravention of the instructions and regulations prescribed by the Director of the Mint and approved by the Secretary of the Treasury—the files and records of this Bureau disclose. Not even this degree of sanction can be found for the production of pieces in soft metal other than trial or experimental pieces—properly so called. No false-metal pieces seem ever to have been required by this Bureau since its organization in 1873, or to have been sanctioned, if at all, as a matter of record. Indeed, it can hardly be believed that any useful or important purpose could ever have been subserved by the production of such extremely illegitimate pieces.

The sanction of this Bureau has been found in a number of cases for the production and private issue of experimental pieces, some of which were in false metal.

In one instance reported to this Bureau December 13, 1877, by the superintendent of the mint at Philadelphia, it appears that nine experimental pieces of silver dollars were struck in copper for officers of the mint, on "general verbal authority" from the Director of the Mint. Under date of the 17th of December, 1877, specific authority of the Director of the Mint was given for the production of twelve experimental silver-dollar pieces in silver and two in copper for officers of the mint.

On the same date "the verbal authority to strike copper specimens referred to" in the superintendent's letter of December 13 was "revoked" by the Director of the Mint and instructions given that "in future such specimens will only be struck after application to this office." The same communication concluded as follows:

I deem it necessary that the strictest regulations and care should be observed in reference to striking specimens in any other metals than gold and silver, it being sure to lead to criticism and complaint on the part of coin collectors.



In dealing with this important matter it is the opinion of the undersigned that, without undertaking to fix the personal responsibility for the breach of law and regulation which it is his present duty to bring to the knowledge of the Department, and of persons interested in the subject, his duty will be exhausted in efforts to prevent a further production of unauthorized material of any kind from United States coinage or experimental dies. Efforts have already been made, as will have appeared above, to aid the public in discriminating against the circulation of unauthorized pieces which hitherto have freely circulated among coin collectors, coin dealers, etc., simply as unique cabinet pieces, without recognition of their unlawful character.

As the execution of the penal coinage laws of the United States is no part of the duty of this Bureau, it falls to other officers of the Government, in their own judgment and discretion, to take cognizance, or not, of any circulation of past unlawful productions from the United States Mint. The following amendments of, and additions to, the general Instructions and Regulations in Relation to the Transaction of Business at the Mints and Assay Offices of the United States, in force April 1, 1887, have been prescribed under date of October 10, 1887, with the approval of the Secretary of the Treasury, for the conduct of the Mint, specific on all the points which have here been made the subject of remark.

## AMENDMENT TO ARTICLE XV.

SEC. 11. All experimental and trial dies shall be in the custody of the engraver, who shall safely keep all models and hubs from which experimental dies have been prepared.

## ADDITIONS TO ARTICLE XV.

All experimental and trial pieces shall be struck by the engraver from planchets furnished by the coiner upon requisition signed by the superintendent for a specific number of pieces.

Dated, or obverse, dies cannot lawfully remain in existence after the year of their date.

SEC. 16. It will be a misdemeanor on the part of any officer or employé of the United States Mint, to be followed by dismissal from the Mint service, and punishable under the coinage laws of the United States, to commit one or any of the following acts:

1. To strike, either by hand or by machinery, a coin of the United States, or a dated pattern piece, or experimental piece, after the year of its date.

2. To strike from a regular coinage die or dies of the United States a piece in any other metal or alloy, or of a weight and fineness, other than prescribed by law for coin of the same denomination, except as provided by section 6 of these regulations.

3. To strike, except as provided by section 6 of these regulations, from a coinage die or dies of the United States a piece of stated denomination in which the obverse or reverse, or both, shall be other than as authorized by law for coin of the same denomination, or in the striking of which dies are used other than employed in the regular coinage of coin of the same denomination.

4. Experimental pieces of proposed designs or of new coins for the official use of the Director of the Mint under section 3510, Revised Statutes, and on his written requisition, shall be struck in such metal or alloy only, and of such weight and fineness as prescribed by law for coins

of the same denomination. Such experimental pieces will be receipted for by the Director, and if not adopted for regular coinage during the same year shall be defaced by him as soon as the use is subserved for which they were struck, and forthwith returned to the superintendent, who shall cause them to be melted in his presence and that of the melter and refiner, when both of these officers shall join in a written statement to that effect, which statement, to be sent to the Director of the Mint, shall be a voucher to the Director of the Mint, and so put upon record in the regular archives of the Bureau of the Mint. Such pieces, if adopted for coinage, will be returned by the Director and receipted for by the superintendent.

#### TECHNICAL OPERATIONS OF MINTS.

The technical and mechanical operations of the several mints, while differing in minor particulars, are essentially the same as for the last fifty years. The points of difference are chiefly in practice, which necessarily changes with the personality of the head of the several operative departments. Thus in the matter of melting, casting and cooling of ingots, and annealing, the practice at each institution differs somewhat from that of the others. These points of difference are to some degree more or less determined by differences in the plant and appointments of the several institutions, owing to variations in local conditions, especially as to supplies of material. The general uniformity referred to, in equipment as well as practice, is probably due to the fact that under the organization of the mint service previous to the Coinage Act of 1873 the mint at Philadelphia, then known as the Mint of the United States, was the medium through which machinery and regular supplies were distributed to the other institutions of the Republic, then known as branch mints.

#### MECHANICAL OPERATIONS AT MINTS OF THE UNITED STATES.

No notable renewal of plant or of machinery has taken place at any of the mints except at Philadelphia, where during the present calendar year a new steam-plant has been introduced, by special appropriation of Congress.

The mint at Philadelphia still performs a large part of the annual coinage, including about two-thirds of the silver-dollar coinage and a large part of the coinage of subsidiary silver, together with the whole coinage of minor coins; while it is also called upon to execute from time to time a portion of the annual gold coinage, the principal proportion of which for several years has been executed at San Francisco. Although meeting a constantly pressing and most urgent demand for dimes and minor coin, it has been called upon for two-thirds of the fixed requirement of law for silver dollars. The recent enormous output in both classes of coin from this mint is elsewhere exhibited in this report, and in the preceding ones of the present series. Probably no single institution has ever been called upon for so great a number of pieces in a given time. It ought not indeed to be surprising if it should appear that the pressure under which the operations of this mint have been conducted has affected the economy of its results, in order to secure the uniform high class of work required throughout the mint service.

But it is in the coin adjusted by hand to legal weight, namely, gold and the larger silver pieces, rather than in small silver and minor coin, that a standard can be found by which the mechanical efficiency of a mint can be readily gauged.

From the subjoined statement of the percentage of planchets or blanks of weight adjusted to the whole number cut and to good coin produced—it will be discovered that the percentage of operative loss, or of blanks rejected, at all the institutions is apparently excessive, while its maximum is found to be reached in the mint at Philadelphia.

## APPROXIMATE PERCENTAGE OF CONDEMNED BLANKS TO BLANKS CUT.

Fiscal year.	Coinage mint.							
	Philadelphia.		San Francisco.		Carson.		New Orleans.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
1885.....	18	9	8	8	9	11	.....	9
1886.....	24	12	7	5	.....	.....	.....	8
1887.....	23	21	9	8	.....	.....	.....	6

Percentage of condemned blanks to good coin produced.—Gold coin and silver dollars.

1885.....	23	10	9	10	10	12	.....	10
1886.....	32	14	8	5	.....	.....	.....	9
1887.....	8	27	10	8	.....	.....	.....	6

## STATEMENT OF OPERATIONS OF THE MINT AT MELBOURNE.

Years.	Percentage of condemned blanks to blanks cut.	
	Sovereigns.	Half-sovereigns.
1880.....	7.35	.....
1881.....	6.26	15.56
1882.....	7.33	27.64
1883.....	6.48	.....
1884.....	6.78	51.43
1885.....	10.30	41.66
1886.....	7.42	30.83

The above statement covers work on silver dollars exclusively at New Orleans, and principally on the same class of coin at Philadelphia and almost exclusively the same at Carson. At San Francisco the output for the period cited was over one-half gold coins. Both classes of coin may properly be taken together for the present purpose of comparing the mechanical efficiency of the several mints.

A statement like the above suggests the following inquiries: (1) whether the average loss of "blanks" at all of the mints of the United States is not far above what is essential to the manufacture of coins of similar weight from the same alloy? (2) Whether the same loss is found to occur at other public mints or at private mints elsewhere? and, if not, whether (3) a comparison unfavorable to the mints of the United States follows from conditions of our mint practice, the quality of the mechanical plants at the different institutions, or more or less directly

from defective manipulation due to the instability of the personal organization of our mint service.

Unfortunately, however, these questions cannot be directly answered as fully as could be wished for want of ample exhibits of the same points on the part of mints of other nations, and in the absence of other specific information on the subject.

It will be understood that in the practice of the mints of the United States the rejection of blanks is in part through the process of automatic weighing, and in part through the process of filing by hand, for which latter process adjusters are employed. Blanks are therefore advanced products, which represent all kinds of labor and manipulation involved in the manufacture of coin, except the final act of the press, whose ordinary performance is some 60 per minute. In the mints of the United States, coins too heavy to be readily reduced by filing to a weight within the prescribed tolerance, or too light to be within, are rejected, with the aid of a force of adjusters, before coining, as in most mints of continental Europe.

In the Royal Mint at London no adjusters are employed. Coins are there advanced to the finished state before rejection of too light and too heavy, no mechanical reduction of heavy coin thus being practicable. Hence the rejection or condemnation of a larger proportion of coin in the Royal Mint than of blanks in the mints of the United States, but at no expenditure for adjusting—by which this proportion might be reduced. It appears that the proportion of rejected coins in 1885 at the Royal Mint at London was only 17.10 per cent., and 14.09 per cent. in 1886—the greater loss being in the coinage of gold.\* The proportion of rejected blanks at the mint at Philadelphia is thus seen to compare very unfavorably with the results of the Royal Mint of Great Britain as well as of other mints in the United States.

The following statement of the proportion of coin produced from ingots operated upon at the several mints, while it includes the loss by condemnation of blanks, also exhibits antecedent losses entailed in the operations of annealing, rolling, and cutting.

PERCENTAGE OF COIN PRODUCED FROM INGOTS OPERATED ON.

Fiscal years.	Coinage mints.							
	Philadelphia.		San Francisco.		Carson.		New Orleans.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
1883.....			54.7	51.5				
1884.....			54.3	52.5				
1885.....	35.3	46.8	54.7	53.3	50.9	46.5		51.6
1886.....	33.8	47.4	52.0	52.8				53.2
1887.....	25.2	44.1	47.5	53.9				56.0

\* 17th An. Rep. Deputy Master of the Mint, 1886, p. 42.

## STATEMENT OF THE OPERATIONS OF THE MINT AT MELBOURNE.

Years.	Percentage of coin produced.	
	Sovereigns.	Half-sovereigns.
1880.....	65.69	.....
1881.....	66.29	50.41
1882.....	65.68	41.19
1883.....	65.99	.....
1884.....	62.20	14.75
1885.....	60.89	22.22
1886.....	64.81	38.03

## PERCENTAGE OF GOOD COIN PRODUCED AT THE MINTS OF INDIA FROM METAL OPERATED ON.

*Rupees.*

Year.	Mint Calcutta, silver.	Bombay.
1886.....	57	55.5

It will be observed that the better results are exhibited by the mints at San Francisco and New Orleans, as compared with the mint at Philadelphia. But none of our mints are up to the standard of efficiency to be found in the mint at Melbourne, where the average percentage of coins produced during the last eight years has been as high as 64.62 in the case of sovereigns.

At the mint at Calcutta in 1886 fifty-seven (57) per cent. of good coin was produced from ingots operated on, and at Bombay 55.5 per cent., both mints being occupied in rupee coinage, and thus practically under similar conditions as in the coinage of the United States silver dollar. Such a comparison, as in the case of rejected blanks, is again very unfavorable to the mint at Philadelphia.

Under such circumstances I am bound to inquire to what is due the failure of our mints, particularly the mint at Philadelphia, to attain their well-known excellence of manufacture in coin actually produced, along with as high a degree of economy of production as is consistent with public work of this kind. It is hardly necessary to remark that no private contractor or manufacturer could be expected to tolerate such operative losses as are to be found in some of the leading mints of the world besides those of the United States.

The only mint of which I have been able to make a personal inspection since entering upon the duties of this Bureau is the mint at Philadelphia. As the oldest mint of the United States, and the seat of the Director of the Mint down to the year 1873, and still the leading institution of the country in point of magnitude of operations and number of departments, this institution must be presumed to fairly illustrate the art of minting in the United States. Minor differences in its operations as compared with those of the collateral mints have been above referred to as such as may arise from the personal practice of the several heads

of the operative departments, and from differences in plant, appointments, and supplies.

During the last two years this mint has not only been greatly taxed but strained severely in order to meet the requirements of the coinage laws, and the requirements of this Department, as determined in the latter case by extraordinary demands for certain classes of coin, notably minor coin, the use of which has of late become remarkably extended throughout the country.

The other mints of the Republic, with whose performance in point of economy the mint at Philadelphia is found to suffer by comparison, have not been so severely taxed, while their facilities in many respects are superior, especially in point of space, light, and convenience—so important, along with deliberateness of work, to the nicer operations of a mint.

Experiments have been instituted by me at the mint at Philadelphia which tend to determine and locate some weak points in the plant and practice of that institution. Without encumbering these pages with technical details, it may be remarked that in several particulars the inefficiency which these experiments tend to disclose is in different degrees shared by the several coinage mints.

Referring to the plant of the mint at Philadelphia more particularly, it may be said that while the operations of coining, as at the other mints, is believed to be conducted as effectively as practicable at this day by the use of presses of excellent construction and durability, the preliminary operations of the coiner's department will not compare favorably with similar operations at European mints and private manufacturing or minting establishments.

Improvements are sought in the annealing of fillets, especially in the direction of indirect application of fire, so as to be performed in retorts excluded from contact with the gases of combustion.

The least efficiency in our whole mint practice is probably to be found in the want of suitable machinery for finishing bands or fillets ready for cutting, the desideratum of a fillet of uniform thickness not being met by any of our present finishing rolls, supplemented as these are with the use of the draw-bench. In fact, no finishing rolls worthy of the name are employed at the mint at Philadelphia, and the same is presumably the case at the other mints. The draw-bench is thus called upon to supplement the work of so-called finishing rolls, as distinguished from break-down rolls, but with no other result than great lack of uniformity in the thickness of fillets, whence arises the great loss of blanks cut from them.

It is well known that rolls of precision are in use at mints on the continent of Europe, as at Berlin, Brussels, Vienna, Milan, and Rome, and it is believed that rolls of equal precision are applied in this country to manufactures of different kinds. My inquiries on this subject have not been exhaustive, but have gone so far as to show that rolls claimed to be of precision are in use at several private establishments. The qualities essential to rolls of this character have not yet been determined by me, especially in view of the results of my present inquiry into the matter tending to show that different views are entertained on this subject by different persons of authority.

This question appears to turn less upon the physical properties of the roll itself, as between those of chilled iron or different kinds of steel, than upon questions of diameter, the revolution of one or both rolls, length, bearings, and housings of the same, and mode of propulsion, whether by gearing, belting, or friction. The one quality of rigidity,

along with the minimum of elasticity consistent with durability, and freedom from liability to break under strain, are conceded to be points desired in rolls of precision, while on the several other points referred to no unanimity of opinion seems to prevail among such American metal-workers as have been consulted.

The defects in annealing make themselves felt in ordinary rolling, and obviously increase the tendency to uneven rolling. Rolls, therefore, not powerful enough not to yield to physical inequalities would fail as rolls of precision for the purpose required. The rolls at present at the mint at Philadelphia, already referred to, are now some fifty years old. So far from ever having been intended as rolls of precision, they have not even been established on rigid foundations. No extra stability has been given to their resting place except what is imparted by simple girders, which are subject to the vibrations of the whole plant as well as to those from the rolls themselves.

Enough has been said without an extended discussion of this matter to point out the needs of improvement in the rolling operations of the mint at Philadelphia and to indicate at least one direction for improvement in the appliances of our mints for production of bands of strictly uniform thickness, so as to render them effective enough to overcome such irregularities as arise from inequalities of density in the metal itself. It is not impossible, indeed, that an improved draw-bench to the same end might be a still more desirable improvement, so as to obviate the necessity of the use of finishing rolls of such a degree of precision as to be perhaps incompatible with the hard usage to which machinery of this kind is necessarily subjected in public mints.

Indeed it would be surprising if the inventive talent of our population were not equal to the production of a draw-bench which should take the place of the present imperfect machine of that name, or equal to achieve the construction of an entirely new machine to perform more effectively the same operation for which the draw-bench has long been in use in many mints of the world, where the operation of rolling as a work of precision has not been attempted.

The art of adjusting blanks too heavy to be reduced to proper limits of weight by gentle hand-filing, has never been practiced at any of our mints. The operation of adjusting by gentle filing of heavy blanks is in the mints of the United States at the hands of adjusters, for which a large force of women is employed. At several mints of continental Europe this operation is confided to men, and carried much farther than is practicable under the present arrangement at our mints, and with the use of small appliances of edged tools for more extensive reduction than can be accomplished by filing, without loss of symmetry in the blank.

Dr. Ansell in his work on "The Royal Mint" has described a machine known as the "Pilcher filing machine," for which he claims great efficiency in the reduction of the number of discarded blanks. By the use of this machine the number is stated to be reduced to such proportion only of defective blanks as are too light, the machine itself being claimed to handle all blanks originally too heavy. Whether the machine referred to has been, or would be, found in practice to answer the requirements for which it is contrived, it is not at all unlikely that a machine could be so constructed as to perform the work so desirable at every mint where too heavy blanks are liable to be produced in large proportion for want of uniformity in the thickness of fillets.

In order to render as practicable as possible under the present organization of the mint service the suggestions here briefly made, the

operative officers of the mint at Philadelphia have, in co-operation with the superintendent, been charged with the study in detail of the several points referred to. At all of the institutions the operations which have formed the subject of these remarks are under the immediate supervision of coiners to whose appointment, so far as I am aware, familiarity with the mechanical arts or the art of coining has not been required as a condition, the office having by long-established precedent been considered an executive, rather than a technical or mechanical, one. In this fact, and in the additional fact that our coinage operations are not concentrated in a single mint, but conducted at points on three of the extreme boundaries of the Republic, must be sought the explanation of any failure of our mint practice as a unit, and any failure of the technical operations of our mint service to be in accord with the best practice of the day.

The following special statement has recently been received from the mint at Philadelphia:

RESULT OF WORKING OF 8,520 SILVER INGOTS AT THE MINT AT PHILADELPHIA, OCTOBER 20-22, 1887.

Character.	Per cent.
Fillets blistered .....	0.8
Clippings .....	41
Heavy planchets adjusted .....	32.9
Light planchets adjusted .....	10
Heavy planchets condemned .....	5.3
Light planchets condemned .....	10

OPERATIONS OF THE MELTER AND REFINER.

The metallurgic processes employed at the several mints of the United States are uniform and in general conformity with those of foreign mints. Notable differences of practice, however, are recognized among the several institutions. The practice of each institution, so far as it is individual, seems to have become more or less traditional from the circumstance that each one seems to be mainly guided by established precedents of its own, perhaps handed down successively from one operative officer to another, and in the same manner from one set of operatives to their successors. From the further circumstance that skilled operatives in the mint service are not frequently changed and never wholly at one time, precedents more or less personal in their beginning have passed into practice, and become apparently so deeply rooted, as to be almost unchangeable.

An effort on the part of a melter and refiner to introduce into the melting room a new plan of operations, or even to change the size of the melting pots, the weight of the melt, or the mode of casting or cooling ingots, has been found no easy matter, and has sometimes failed for want of persistence against habit and opposition. An officer who has found security for his accounts with the Government in established practice, must be possessed of strong convictions in favor of a change before he considers it safe to make one. Thus it happens that all technical improvements in methods of melting and casting ingots must be instituted by the officer immediately responsible for the melting department or not at all. While the superintendent of a mint cannot be asked to take upon himself such a responsibility as to insist upon



technical changes in the processes or practice of the melting room, nor the officer in charge of that department to assume the responsibility of adopting processes or a practice not of his own accord, it should not be considered that the latter officer's responsibility ends with his observance of statutory limits of fineness and wastage of precious metals. He is none the less also bound to observe strict economy in labor and fuel, and should not be allowed an unreasonable latitude in operative waste of this kind any more than in destructive consumption of the precious metals. The proportion of silver ingot-melts, good and bad, is one measure of the degree of efficiency in the work of the melting department. So is the relative wastage of the precious metals. But neither measure is absolute. First, in the case of melts it must not fail to be considered that, according to the experiments of Levol in Paris, and Roberts in London, unequal distribution of silver begins in the ingots, and that excessive inequality of filets in fineness and density (whence blanks rejected), is not wholly chargeable to ineffective annealing and unequal rolling in another department.

Second, as to the melter's wastage, under the circumstance that one mint reports an operative net gain of silver, while another mint with operations on the same class of silver bullion, but on a much smaller scale, reports a notable wastage of a *bona fide* character, it is clear that in the former case allowances on entries of bullion have been made for the security of the melter and refiner's account, which have not to the same extent been made in the latter case. Thus, singular as it may seem, it happens that the operations of two different mints can not be exactly compared on equal terms; owing to differences in personal practice.

In the course of comments in the present report on the same subject—that is, of gains in the operations of melting and refining, in which an operative loss, provided for by law in the form of a legal allowance for wastage, is essential to the process employed—occasion was taken to point out the prevalence, at more than one of the mints, of a practice not sanctioned by law, namely, of including in allowances on bullion (deposited or received on purchases) for mechanical impurities, such as sandage and moisture, a margin sufficient also to cover metallurgical losses, especially such as unavoidably arise from volatilization in the case of silver, and to a minor extent in the case of gold when alloyed with certain volatile metals.

A similar tendency to find means for covering the actual wastage in the operations of the coiner is observed in two of the institutions during the past year—a practice likewise not sanctioned by law.

A comparison of the operations of both of the operative departments of the several mints in the matter referred to will not, therefore, be understood to be unfavorable to those mints where mechanical or metallurgical operative losses incurred have not been offset by allowances of any kind not prescribed by law.

For the same reason that it is not the duty of the superintendent of a mint to prescribe rules for technical practice in the department of the melter and refiner, it can not be undertaken by the Director of the Mint to require a uniform practice in the melting-rooms of the several institutions. But it will be the duty of this Bureau to carefully compare the economical results of all the mints, not only in coining operations, but in the antecedent operations of melting, which, unlike the former, are almost independent of the means supplied in the way of fixtures and plant.

It has been my effort to exhibit in such of the fiscal reports of this Bureau as have fallen to my hand the returns of practical operations

at all of the mints in a way to afford operative officers whatever data are necessary for comparison of working results from an economical point of view, in order to set forth the relative merits of different modes of procedure, so far as they are known to vary at the several institutions, and as, indeed, known to no persons so well as to the operative officers throughout the Mint service.

It is probable that, perhaps with one exception, none of our mints afford sufficient space in the melting-room for the introduction of traveling cranes for the handling of melting-pots. While, therefore, little improvement can be looked for in the direction of casting directly, without ladling, into moulds, as at the Royal Mints at London and at Madrid, it is very desirable that close attention be given to the question of the maximum weight of silver melts allowable by economy—not only of waste of silver by volatilization, but of labor and fuel as gauged by the proportion of blanks returned, when ascertained to be defective from physical or metallurgical properties, and not from unsuccessful mechanical treatment, and as further gauged by the number of ingots and fillets condemned. It is not presumed that a stated weight of the silver melt can be fixed upon alike at all of the mints, where practical differences are important, as in the size of the furnace, strength of draught, and character of fuel.

It is also desirable that due attention be given to the mode of casting ingots, in order to settle upon something like uniformity in this very important particular, especially in point of slow or rapid cooling; for it is well known that the practice at the several mints varies by extremes, the extreme of slow cooling being found at New Orleans, and the extreme of rapid cooling at San Francisco. The experiments of Mr. W. C. Roberts, chemist of the Royal Mint at London, on the homogeneity of alloys of silver and copper and the effects of slow and rapid cooling, are especially pertinent to a study of this question. There appears much reason, indeed, to believe that in the casting and cooling of ingots which pass all practical tests previous to the cutting of fillets rolled from them, begin the evils which result in an excessive rejection of blanks from inequalities of weight. For such physical inequalities in fillets, and *pari passu* inequalities of weight of blanks, imperfect annealing and defective rolling seem to have been held too directly accountable in our mints.

It is noteworthy that the mint at present exhibiting the smallest ratio of condemned silver blanks to the whole number of blanks cut is that mint where ingots are slowly cooled. This fact is in agreement with the experiments of Levol at the mint at Paris.\*

The experiments by the Wastage Commission at the mint at Philadelphia in 1872 tend to show the inequalities of distribution of silver in fillets to be a condition of the original ingots.†

Such facts point to the inquiry how far the segregation of silver in the silver-copper ingot is affected: (1) By the weight or volume of the melt; (2) by the mode of pouring; (3) by the size of the mould, and incidentally by the conductivity of the mould as a condition of its volume, as well as (4) by the comparative rapid or slow further cooling of the ingot. The inclination of the mould is another condition which I have observed to be regarded as important in the casting of brass at certain metal works recently inspected by me.

It has sometimes been supposed that segregation of silver in silver-copper melts takes place in some ratio to the weight or volume of the

\* See Percy, *Metallurgy of Gold and Silver*, Part I, 156.

† Report upon the Wastage of Silver Bullion, Mint of the United States. Washington, 1872, p. 54.

melt. Their weight at the several mints is individual to each, namely, some 3,300 ounces at New Orleans against 3,600 at Philadelphia and 1,650 ounces at San Francisco. Except at New Orleans these are small, the least exceedingly small in comparison with the weights of similar melts at the mints of continental Europe, as exhibited by Mr. Roberts.\*

The ratio of condemned melts of silver alloy is in none of the mints now large, though over four times greater at the mints at Philadelphia and New Orleans than at San Francisco.

The proportion of silver melts condemned at the mint at Philadelphia for the last six years (1882-1887) has not exceeded sixty-five hundredths of 1 per cent., against 9.7 per cent. from 1868 to 1874—an improvement of 1 to 15.

While records of ingots condemned and blanks rejected are forwarded to this Bureau, no record of condemned fillets after annealing has hitherto been communicated. Such further record of condemned material will in future also be required.

STATEMENT OF THE NUMBER OF MELTS OF INGOTS MADE AND THE NUMBER CONDEMNED AT THE MINTS OF THE UNITED STATES AT SAN FRANCISCO, PHILADELPHIA, AND NEW ORLEANS DURING THE FISCAL YEARS 1882-1887.

SAN FRANCISCO.

Fiscal year.	Gold ingot melts.		Silver ingot melts.	
	Number made.	Number condemned.	Number made.	Number condemned.
1882.....	958	8	10,719	20
1883.....	901	5	7,509	12
1884.....	767	4	5,539	1
1885.....	677	1	2,619	0
1886.....	935	0		
1887.....	958	2	1,086	0
Total .....	5,196	20	27,472	33
Condemned ..... per cent.		.4		.13

PHILADELPHIA.

1882.....	1,333	17	6,502	32
1883.....	178	3	7,328	46
1884.....	109	6	8,281	64
1885.....	65	5	9,142	29
1886.....	208	0	12,867	80
1887.....	7	0	14,146	122
Total .....	1,900	40	58,266	373
Condemned ..... per cent.		2.1		.63

NEW ORLEANS.

1882.....	11	4	922	6
1883.....			1,565	22
1884.....			1,519	10
1885.....	2		2,059	10
1886.....			1,838	7
1887.....	23	7	2,146	10
Total .....	36	11	10,349	65
Condemned ..... per cent.		30.55		.63

\* Report of the Deputy Master of the Mint on European mints. London, 1870.

† Largely dental gold, containing platinum.

Recent experiments at the mint at Philadelphia serve to show that uniform results in weight and thickness are not attained in silver fillets finished by rolling, and to indicate the certainty that the rolls employed are incapable of executing work of precision within the limit of one-quarter of a thousandth of an inch.

The adverse conditions presented by the rolls at present in use at the mints of the United States may be stated as follows: elasticity of the housings, imperfect rigidity of the rolls, and elasticity of the lubricant, or cushion or film of oil on the journals. To such conditions is to be ascribed the difficulty of obtaining two immovable true lines of contact between surfaces of rolls, under the circumstance that the metal of the fillet, especially in the case of standard silver alloy, may possess unequal physical properties of hardness and density, whereby the unequal effect of the rolls seems to be primarily determined.

It has therefore been found at the mint at Philadelphia that fillets finished on the draw-bench yield the higher proportion of good planchets, notwithstanding the failure in principle of the draw-bench as a tool of precision. This difference in favor of the draw-bench arises from the stability of the dies and the draw-plate. Although a most effective machine for many purposes, its failure in mint practice is both essential and vicarious. Its essential defects arise from the appliance to the fillet of tension as well as compression; its vicarious defects from unequal malleability and tensile resistance in the fillet, in turn due to inequalities in composition, and hence in physical properties. These inequalities are precisely the same that determine the unequal effect of rolls, especially in silver-copper fillets, wherein defects of both machines especially become most apparent. Such inequalities have here been ascribed primarily to lack of homogeneity in the fillet as a condition of segregation of silver in the original ingot.

It does not seem impossible, indeed, that, as an alternative from the difficulty of procuring and maintaining rolls of precision, and from the use of the draw-bench, the principle of construction of which latter machine is obviously incompatible with perfect results in the manufacture of fillets, a shaving-machine, such as manufactured by the Pratt-Whitney Company, Hartford, Conn., may, as believed by the makers, with some slight modifications, be made to serve the purpose of finishing fillets with less deviation in thickness than is accomplished by any existing appliances in the mint service of the United States.

An early opportunity will be sought to test its performance with silver-copper fillets.

Some of the weak points in the mechanism and practice of the mints of the United States are revealed by the working exhibits above briefly presented. These exhibits have thus far been followed up by practical inquiries into the causes of notable inefficiencies in the case of a single institution, to the limited extent that opportunity has been found for such inquiries on my own part, with the aid of its superintendent and operative officers. It is hoped that the preceding remarks will serve to indicate the line of inquiry which the officers of collateral institutions will be requested to pursue, with the view of effecting in the mint service such improvements in technical operations as may enable results to be compared less unfavorably than heretofore with the performance of other mints and private metal works.

How far the weak points of the mint practice of the United States are to be ascribed to instability and want of skill in the operative force is difficult to estimate. While, for reasons obvious enough, public works of a technical character seldom if ever reach a given degree of

efficiency with the same economy to be found under private auspices, the mint service, compared with other branches of the public service, is practically free from legal restraints in the selection and employment of clerks and operatives.

#### PRODUCTION OF GOLD AND SILVER IN THE WORLD FOR 1886.

In the Appendix will be found a table showing the estimated production of gold and silver in the world for the calendar years 1883, 1884, 1885, and 1886. The estimate for the year 1886 is new. This was compiled principally from foreign state papers communicated through the Department of State. These will be found in full in the Appendix. For countries from which statistics were not at hand, estimates made have been based upon the latest reported production, or upon statistics of export of the precious metals. Such items form an insignificant portion of the total production. The ultimate figures for the preceding years 1883, 1884, and 1885 have been revised from later and what are considered better data. The totals may be claimed to approximately represent for the given periods the gold and silver production of the world. The production is expressed in kilograms and in values, the value of silver being taken, wherever the calculation has been made upon the part of this Bureau, at its coining rate in standard silver dollars, corresponding to \$1.16 $\frac{4}{11}$  per ounce standard (.900 fine) or \$1.2929 per ounce fine.

The production of gold has varied but little from year to year, having somewhat fallen off during the year 1886 as compared with 1885. The production of silver, however, notwithstanding the large depreciation in the market value of that metal, has steadily increased from \$115,000,000 in 1883 to \$130,000,000 in 1886. The production of the world for the calendar years 1883, 1884, 1885, and 1886 is exhibited in the following table:

Calendar years.	Gold.		Silver.	
	Kilograms.	Value.*	Kilograms.	Value.†
1883.....	143,533	\$95,392,000	2,769,197	\$115,088,000
1884.....	133,017	101,694,000	2,804,725	116,564,000
1885.....	154,942	102,975,000	3,062,009	127,257,000
1886.....	147,097	97,761,000	3,137,175	130,383,000

\* Kilogram of gold valued at \$664.60. † Kilogram of silver valued at \$41.56.

The United States still maintains first rank among the nations of the world as the largest producer of the precious metals, having produced during the calendar year 1886 gold and silver of the coining value of \$86,000,000. Mexico retains second rank, with a production of \$33,614,000, of which \$33,000,000 was silver. Australia has a production of \$27,647,000, of which \$26,425,000 was gold. Russia is credited with a production of \$21,046,000, of which \$20,518,000 was gold.

It may be said, however, that the production credited Russia for 1886, in the table, does not fully represent the entire production of that Empire for the year. The official statement from the Russian Government purports to represent only the amount sent to the mints. It is probable that later and more complete statistics will tend to exhibit a larger production in Russia by perhaps several millions of dollars, and so bring the production of gold in the world for the year 1886 nearer the amounts of prior years.

## THE WORLD'S COINAGE AND USE OF GOLD AND SILVER IN THE ARTS.

In the Appendix will be found a table showing the value in United States money of the coinage of gold and silver during the years 1884, 1885, and 1886 by each of the nations of the world, from the principal of which reports have been received. The coinage reported is for calendar years, except in the case of Mexico for each of the three years; India for 1884 and 1885; and of Brazil for 1884, for which countries, for the years named, the coinage was reported for fiscal years.

This table includes the coinage executed by substantially, if not quite, all of the nations of the world during the years mentioned.

The value of the coinage was as follows:

Calendar years.	Gold.	Silver.
1884.....	\$99,432,795	\$95,832,084
1885.....	94,728,008	105,105,299
1886.....	92,653,400	124,678,678

The coinage of silver has largely increased while the coinage of gold has fallen off.

It is an important fact that the value of the known silver coinage for the calendar year 1886, over \$124,000,000, closely approximated the production of silver for that year, which was \$130,000,000.

The principal silver coinage was executed by the United States, Mexico, India, Japan, Spain, Austria, and at the mint at Paris for the French possessions in China.

A statement like the present is wanting in absolute significance only to the degree of uncertainty as to the relative proportion of old material employed in coinage and also in the arts.

An incomplete statement of net coinage in relation to recoinage may be presented, as drawn from recent official sources, as follows:

## RECOINAGES REPORTED BY CERTAIN NATIONS, 1886.

## GOLD.

Countries.	Recoinage reported of domestic coins.	Value in United States money.	Recoinage of foreign coins.	Value in United States money.	Total recoinage value.
Great Britain.....					
India.....					
Belgium.....					
Italy.....	Part (not stated).....				
Germany.....	145,560 marks.....	\$34,643			\$34,643
Portugal.....	54,000 milreis.....	54,000			54,000
Egypt.....					
Japan.....	294 yen.....	294			294
Colombia.....					
United States.....	445,743 dollars.....	445,743	9,072,731 dollars.	\$9,072,731	9,518,474
Total.....		534,680		9,072,731	9,607,411

## RECOINAGES REPORTED BY CERTAIN NATIONS, 1886—Continued.

## SILVER.

Countries.	Recoinage reported of domestic coins.	Value in United States money.	Recoinage of foreign coins.	Value in United States money.	Total recoinage value.
Great Britain....	£185, 116 .....	\$880, 867	.....	.....	\$880, 867
India .....	{ 217, 004 } rupees .....	208, 932	7, 860, 090 rupees.	\$3, 723, 324	3, 932, 256
	{ 224, 061 } .....				
Belgium .....	4, 776, 000 francs .....	921, 768	.....	.....	921, 768
Italy .....	9, 302, 404 francs .....	1, 795, 364	.....	.....	1, 795, 364
Germany * .....	.....	1, 153, 963	.....	.....	1, 153, 963
Portugal .....	.....	.....	.....	.....	.....
Egypt† .....	459, 362 Egn. pounds .....	2, 270, 626	.....	933, 525	3, 204, 151
Japan .....	2, 304 yen .....	2, 304	.....	.....	2, 304
Colombia .....	806, 341 dollars .....	806, 341	.....	.....	806, 341
United States ‡ ..	764, 918 dollars .....	764, 918	495, 310 dollars.	495, 310	1, 260, 228
Total .....	.....	8, 805, 683	.....	5, 152, 159	13, 957, 242

\* No recoinage of silver reported, but believed to be all from melted thalers.

† All the new coinage was made from old coin and German silver thalers.

‡ There was also deposited at the mints \$63,679.89 in trade-dollars.

The large recoinage value of foreign gold and silver coins melted down, exhibited in the case of the United States, as compared with other nations, except perhaps in the case of India, is probably to be explained by the circumstance that international exchange of gold and silver coins is so readily accomplished between European states as to render this item at foreign mints one of little moment. Indeed, no recoinage of foreign coins is reported in mint statements on the part of any European nations, so far as I am aware.

Using these partial amounts the results may be stated as follows:

## RESUMÉ.

## GOLD.

Value of the product of the mines, 1886 .....	\$98, 000, 000
Coinage executed in 1886 .....	\$92, 650, 000
Recoinage .....	9, 600, 000
Net coinage 1886 .....	83, 050, 000
Leaving new gold for employment in the arts .....	14, 950, 000

## SILVER.

Value of the product of the mines, 1886 .....	\$130, 000, 000
Coinage executed in 1886 .....	\$124, 670, 000
Recoinage .....	13, 950, 000
Net coinage, 1886 .....	110, 720, 000
Leaving new silver for employment in the arts .....	19, 280, 000

The information obtained from the principal nations of the world relative to the value of manufactured articles of gold and silver attested and stamped during the year 1886, is presented in the following table. This only partially represents the value of the industrial employment of the precious metals. In order that the table may present, as nearly as now practicable, the total industrial employment of gold and silver, estimates have been added for three nations, namely: Austria-Hungary, Germany, and Switzerland, from which no official information has been

received on this subject. These estimates have been taken from the last edition of Dr. Adolf Soetbeer's *Materialien* (1886).

In the case of Belgium, while the value of gold and silver articles stamped, so far as known, was reported for 1886, the figures here adopted cover the value of goods stamped in 1865, the last year when stamping was obligatory, and therefore, as it is assumed, only approximately stand for 1886.

In the case of the United States the values given in the table are as ascertained by the last census made by this Bureau of the employment by goldsmiths, silversmiths, and others.

The industrial use of gold and silver shown by this table is not entirely of new material. In the United States, where the inquiry specifically covered this point, it may be said that about \$7,000,000 of the \$11,152,120 of gold used in 1885 and about \$4,500,000 of the \$5,198,413 of silver was new material. That is, about 35 per cent. of the gold used consisted of melted coin and other old material, and about 12 per cent. of the silver. Whether such a percentage would hold good in European countries is doubtful. Wherever, as in the United States, gold and silver are largely produced and private refineries are numerous, fine bars or new material would ordinarily be employed; but in European countries generally, as it seems reasonable to suppose, most of the gold used in the arts would consist of melted coins. As silver coins are at present generally overvalued (that is, their value as coin exceeds their value as bullion) it follows that in the case of silver for industrial purposes bars would be used to the practical exclusion of coin.

#### GOLD AND SILVER USED IN THE INDUSTRIAL ARTS, 1886.

[Kilogram of gold=\$664.60; kilogram of silver=\$41.56; coining rate of silver in standard silver dollars.]

Countries.	Gold:		Silver.	
	Kilograms.	Value.	Kilograms.	Value.
Austria-Hungary.....	*3,180	\$2,113,428	*31,793	\$1,321,317
Belgium.....	†635	422,021	†4,654	193,420
France.....	8,548	5,681,000	75,803	3,150,373
Germany.....	†15,000	9,969,000	†110,000	4,571,600
Great Britain.....	6,799	4,518,615	62,895	2,613,916
Italy.....	1,143	759,640	5,191	215,738
Netherlands.....	1,044	693,842	10,924	454,000
Russia.....	4,915	3,266,509	61,330	2,548,875
Sweden.....	302	200,709	1,904	79,130
Switzerland.....	†15,000	9,969,000	†32,000	1,329,920
United States.....	16,780	11,152,120	125,082	5,198,413
Total.....	73,346	42,743,884	521,576	21,676,702

\* For 1885—Goods stamped—Dr. A. Soetbeer's *Materialien*, 1886, second edition, p. 38.

† Stamped in 1865, when official verification was obligatory.

‡ Average for recent years—Dr. A. Soetbeer's *Materialien*, 1886, second edition, p. 38.

#### MONETARY STATISTICS OF FOREIGN COUNTRIES.

In order to continue the compilation of the monetary statistics of foreign countries published annually by the Bureau of the Mint since its organization, a list of interrogatories, prepared in this Bureau, was



transmitted by the Secretary of State to the diplomatic and consular representatives of this Republic in the following countries:

*List of countries from which information was requested.*

Argentine Republic.	Egypt.	Peru.
Austria-Hungary.	France.	Persia.
Australia.	Germany.	Portugal.
Algeria.	Great Britain.	Porto Rico.
Belgium.	Greece.	Roumania.
Bolivia.	Guadeloupe.	Russia.
Brazil.	Hawaiian Islands.	Roumelia.
Bulgaria.	Hayti.	Santo Domingo.
British Guiana.	Honduras.	Siam.
Canada.	India.	Spain.
Cape of Good Hope.	Italy.	Sweden and Norway.
Central American States.	Japan.	Society Islands.
Ceylon.	Luzon.	Servia.
Chili.	Mexico.	Switzerland.
China.	Morocco.	Turkey.
Cuba.	Martinique.	Tasmania.
Corea.	Madagascar.	United States of Colombia.
Costa Rica.	Netherlands.	Uruguay.
Denmark.	New Zealand.	Venezuela.
Ecuador.	Paraguay.	

*Replies have been received from the following countries.*

Austria-Hungary.	Germany.	Paraguay.
Algeria.	Great Britain.	Peru.
Belgium.	Guadeloupe.	Portugal.
Brazil.	Hawaiian Islands.	Russia.
Canada.	Hayti.	Siam.
Cape of Good Hope.	India.	Sweden and Norway.
Ceylon.	Italy.	Switzerland.
Chili.	Japan.	Turkey.
China.	Mexico.	Tasmania.
Denmark.	Netherlands.	United States of Colombia.
Egypt.	New Zealand.	Uruguay.
France.		

The Department of State was also requested to call the attention of the representatives of the United States in certain countries, from which no replies had been received, to the circular of January 1, 1886, and to the desirability of procuring and forwarding the information called for in at least the first four of the several interrogatories. As the replies in this report from foreign countries contain, in some cases, answers to the circular of January 1, 1886, covering the calendar year 1885, as well as to the circular of January 1, 1887, covering the calendar year 1886, and as the questions are referred to by numbers only, the two sets of interrogatories are here appended:

*Interrogatories addressed to the representatives of the United States in foreign countries, calendar year 1885.*

- (1) What is the legal unit of account?
- (2) What is the legal standard: Double, single gold, or single silver? If double, at what ratio between the two metals?
- (3) What is the weight in grams of each of the gold coins authorized by law to be coined, and what is the fineness expressed in thousandths.
- (4) Same for silver.
- (5) Is the mint open to deposits by individuals of gold and silver for coinage, or of one metal to the exclusion of the other?
- (6) In case of deposits by individuals of gold and silver, what coinage charge if any, is imposed on each metal?
- (7) For what amount are gold coins a legal tender in the payment of debts or Government dues?
- (8) Same for silver.

(9) What is the "tolerance" or "mint remedy" allowed by law in coinage on each piece, both as to weight and fineness—that is, what deviation is allowed from the legal standard?

(10) What are the legal provisions as to the recoinage of worn gold and silver coins?

(11) What was the amount of gold coined during the calendar year, 1885, by denominations and value?

(12) Same for silver.

(13) What has been the total coinage of gold from the establishment of the mint? Amount recoined?

(14) What has been the total coinage of full legal-tender silver from the establishment of the mint? Amount recoined?

(15) What has been the total coinage of subsidiary or limited-tender silver from the organization of the mint? Amount recoined?

(16) What was the weight, expressed in kilograms, and the value of the gold produced from the mines during the calendar year 1885?

(17) Same for silver.

(18) The import and export of gold and silver coin and bullion, separately, during the calendar year 1885?

(19) Estimated amount of gold coin in the country? What proportion in active circulation?

(20) Same for full legal-tender silver.

(21) Same for limited-tender silver.

(22) Amount of paper currency outstanding December 31, 1885; Government and bank notes separately?

(23) Copy of the coinage laws and regulations of the mint as to coinage.

INTERROGATORIES ADDRESSED TO THE REPRESENTATIVES OF THE UNITED STATES IN FOREIGN COUNTRIES, CALENDAR YEAR 1886.

(1) What was the amount of gold coined during the calendar year 1886, by denominations and value? What amount was recoined during the year?

(2) Same for silver.

(3) What was the import and export of gold coin and of gold bullion during the calendar year 1886?

(4) Same for silver.

(5) What was the weight, expressed in kilograms, and the value of the gold produced from the mines during the calendar year 1886?

(6) Same for silver.

(7) Were any laws passed during the year 1886 affecting the coinage, issue, or legal-tender character of the metallic and paper circulation? If so, please transmit copies.

(8) Is the denomination of gold coin paid for deposits of bullion optional with the private depositor at the mints or other receiving institutions?

(9) Is there, in the case of gold coins, any restriction upon the issue of different denominations; and, if so, in what branch of the Government is discretion in this matter reposed?

(10) In case of the existence of bureaux of guaranty or departments of the Government for the verification and stamping of articles of gold and silver, and a collection of a tax for the same, report the amount of tax collected and the corresponding weight in kilograms and the value of manufactured goods—gold and silver separately.

NOTE.—Any information in line with the researches of the Bureau of the Mint of the United States in the industrial consumption of the precious metals will be very acceptable.

Coin and bullion should be given separately where practicable.

It will be noticed that in the interrogatories of the 1st of January, 1887, two new fields of inquiry have been entered upon.

The first, comprised in questions 8 and 9, is in relation to the right of private depositors of gold bullion to select the denomination of coin

in which they should be paid and whether there be any restriction on the issue of different denominations of coin.

These interrogatories were inserted for the reason that by certain large depositors, notably at the mint at San Francisco, it is claimed that under section 3544 of the Revised Statutes they are entitled to receive double-eagles in payment of gold deposits, independent of any policy on the part of the Treasury Department to coin small denominations in the mints of the United States. I was therefore desirous of ascertaining the practice of foreign governments in this respect.

In the case of the mints of Great Britain and India there is no restriction on the issue of the different denominations of gold coins authorized by law, and the denomination of the coins in payment is optional with the depositor.

In France such a restriction exists. The coinage of pieces of gold of the denomination of 5 francs is provisionally suspended in France and the other states of the Latin Union by article 8 of the monetary convention of November 6, 1885. Twenty-franc pieces are generally demanded by depositors and so paid. In Belgium, also, 20-franc pieces only are coined. In Switzerland no coinage has been executed for private persons. In Italy the matter is optional with the depositor, except as to the coinage of the 5-lire gold piece. In Germany private individuals can have coined only 20-mark pieces. In the Netherlands the matter is not optional with the depositor, and the 10 florin is the only gold coin which is struck at the mints. In Portugal, while there is little or no deposit of gold by private individuals, there is no restriction as to the mode of payment. In Sweden, Norway, and Denmark 20 and 10 crown pieces only are coined for individuals; 5-crown pieces being coined only on account of the State and the Reichs-Bank. In Turkey the denomination of coin is optional with the depositor, and no restriction is imposed as to the issue of different denominations of gold coin. In Russia no restriction exists as to the option of private depositors in the kind of coin paid out. In Egypt, while no restriction regarding the coinage of different gold coins exists, the whole matter is left to be regulated by the minister of finance. In Japan depositors are allowed to select the denomination of coin in which they will be paid. In Mexico the mints are leased to private parties, who are bound by their contract to coin both large and small money, but the denominations coined or paid out to depositors are practically left to the managers of the several mints. In the United States of Colombia there is no restriction on the issue of different denominations of gold coin. In Peru, where gold has been demonetized, and where the gold coins provided for by law are not legal tender, the whole matter of the denominations of coin to be issued is left to the discretion of the chief of the mint. In Chili the Government buys gold bullion and pays for it in the denomination of gold coin most convenient to the Government. At the mints of Brazil depositors have the right to demand any kind of legal gold coin.

It may, therefore, be said that there is no uniformity in the practice of foreign mints in this matter, but that most of them, which are open to deposits of gold bullion by individuals, exercise some restriction as to the denomination of gold coin paid out to depositors.

The other line of inquiry referred to is in the industrial employment of the precious metals, the interrogatory being as to the existence of bureaus of guaranty under the supervision of government for the verification and stamping of articles of gold and silver, and as to the value of such manufactured goods stamped during the year 1886.

In many of the great nations of Europe, notably England, France, Germany, Italy, etc., such bureaus exist, but the stamping of manufactured goods is not in all of them obligatory. The most that has been obtained on this subject is as to the value of the precious metals used in manufactured articles in such countries as have bureaus of guaranty.

In addition to the information contained in communications in answer to these circulars the Bureau of the Mint has received official reports and no little statistical material in the way of official publications. Among the most valuable of these may be mentioned the Seventeenth Annual Report of the Deputy Master of the Royal Mint, London, 1886; Report of the Commissioner of the Imperial Mint of Japan, 1886; ditto, 1887; Noticias de las Acunaciones é Introducciones de Metales Preciosos, Mexico, 1887; Direction Général des Monnaies et Médailles, Compte Rendu pour l'Exercice, 1884, Paris; ditto, 1885; Administration Reports of Calcutta and Bombay Mints for 1885-'86; Miscellaneous Statistics Relating to the Finances of British India, published at Calcutta, containing a chapter on the subject of mint and coinage; The Mining and Mineral Statistics of the United Kingdom of Great Britain and Ireland; La Réforme Monétaire en Égypte; La Crise Monétaire, Mexico, and the First Report of the Royal Commission Appointed to Inquire into the Recent Changes in the Relative Values of the Precious Metals, London.

The replies elicited by the above interrogatories, except so far as they relate to subjects not properly appertaining to questions of standard, to the subject of metallic money, or to the subject of the precious metals generally, will be found in the Appendix.

A brief statement of the more important contents of these papers and documents, so far as they relate to the production, consumption, and movement of the precious metals, is here inserted.

#### GREAT BRITAIN AND BRITISH COLONIES.

*Great Britain and Ireland:* Lord Salisbury transmits, through Minister Phelps, under date of March 30, 1887, information concerning the coinage and movement of the precious metals during the year 1886.

Items reported for 1886.	Amount in pounds sterling.	Equivalent in United States money.
Gold coinage.....		
Silver coinage.....	417,383	\$2,031,194
Amount recoined.....	185,116	900,867
Net silver coinage.....	232,267	1,130,327
Imports:		
Gold coin.....	6,897,305	33,565,735
Gold bullion.....	6,494,951	31,607,679
Total.....	13,392,256	65,173,414
Exports:		
Gold coin.....	7,791,260	37,916,167
Gold bullion.....	5,992,446	29,162,238
Total.....	13,783,706	67,078,405
Loss by export.....	391,450	1,904,991

Items reported for 1886.	Amount in pounds sterling.	Equivalent in United States money.
Imports:		
Silver coin.....	2, 224, 599	10, 826, 011
Silver bullion.....	5, 247, 040	25, 534, 720
Total.....	7, 471, 639	36, 360, 731
Exports:		
Silver coin.....	2, 054, 206	9, 996, 793
Silver bullion.....	5, 169, 493	25, 157, 338
Total.....	7, 223, 699	35, 154, 131
Manufactured goods—stamped.	Kilograms.	Equivalent in United States money.
Gold.....	6, 799	\$4, 518, 615
Silver.....	62, 895	2, 613, 916

Lord Salisbury also transmits, under date of March 10, 1887, a memorandum on the currency system of British India, which will be found under the head of "India."

Mention was made in the introduction to this chapter of the receipt by this Bureau of the first report of the Royal Commission appointed in England to inquire into the recent changes in the relative values of the precious metals. This document consists of minutes of evidence taken before the commission from its first session, November 19, 1886, to June 10, 1887, with appendices of tabular matter by way of exhibits by witnesses and relating to their testimony.

It will be remembered that a previous commission in Great Britain, appointed in August, 1885, to take under consideration the subject of the depression of trade and industry in that kingdom, after devoting some consideration to the question of the changes in the standard of value and the rates of exchange as affecting the depression of trade, recommended that a special inquiry be made into this subject. The present Royal Commission was accordingly constituted in September, 1886, to inquire into recent changes in the relative values of the precious metals. The first report of the present commission conveys no recommendation of remedial measures. It contains, however, valuable information in the way of exhibits of coinage, of production of the precious metals and of prices of commodities, and in a wide range of inquiry the testimony of men eminent as financiers or as writers on subjects of political economy.

Conceded, as at present it seems to be, that initiatory action toward international measures for the rehabilitation of silver as a standard of value now rests with Great Britain, any hope still popularly entertained of immediate action on this momentous question centers upon this commission.

*Australasia.*—By Mr. George Anderson, deputy master of the Royal Mint, was kindly transmitted, under date of August 2, 1887, a statement showing the production of the several provinces in Australia for the calendar year 1886, as follows:

Metals.	Ounces.
Gold.....	1, 389, 607
Silver.....	1, 027, 541

It is understood, as elsewhere explained,\* that the ounces given in this return, as in previous returns, are gross ounces. Making a deduction of 8 per cent., as heretofore, gives the production of Australia for 1886, as follows:

Metals.	Fine. Ounces.
Gold .....	1, 278, 438
Silver .....	945, 338

The official reply from the Australian Government to the interrogatories for the year 1886 has not been received. From the official reports of the Sydney and Melbourne mints, published with the annual report of the Royal Mint in London, the coinage of the two mints in 1886 was as follows:

Coinage, 1886.	Amount.	Equivalent in United States money.
Mint at Sydney—Gold .....	£1, 708, 000	\$8, 311, 982
Mint at Melbourne—Gold .....	2, 920, 500	14, 212, 613

*New Zealand.*—Mr. Francis R. Webb, United States vice-consul at Auckland, forwards, under date of March 22, 1887, replies to the interrogatories of the Bureau of the Mint relative to the colony of New Zealand.

There is no mint in the colony. Information in regard to monetary matters is unimportant.

Mr. Webb also transmits a report on the mining industry of New Zealand for the fiscal year 1886.

*Tasmania.*—Mr. A. G. Webster, United States consul, replies from Hobart, under date of May 4, 1887, to the interrogatories of the Bureau.

Items reported for 1886.	Imports.		Exports.		Produced from mines.
	Amount.	Equivalent in United States money.	Amount.	Equivalent in United States money.	
Gold coin .....	£447, 718	\$2, 178, 820	.....	.....	.....
Gold bullion .....	.....	.....	£508, 072	\$2, 472, 532	.....
Silver coin .....	4, 379	21, 310	.....	.....	.....
Gold:					
Kilograms .....	.....	.....	.....	.....	964, 690
Value .....	.....	.....	.....	.....	£566, 378
Equivalent in United States money .....	.....	.....	.....	.....	\$2, 756, 279

*India.*—Valuable information in the way of Government publications and reports in regard to the precious metals in India has been received. Mr. Benjamin F. Bonham, consul-general of the United States at Cal-

\* Report on Production, 1886, page 69.

cutta, communicates, under date of June 18, 1887, replies from the secretary to the governor of India of the department of finance giving the information called for in the circular of this Bureau in regard to the year 1886, and also in the first four questions of the circular for the preceding year.

Items reported for 1886.	Rupees.	Equivalent in United States money.
Coinage of the Bombay mint:		
Silver.....	*42,177,624	\$19,979,540
Calcutta mint:		
Silver.....	†15,076,786	7,141,874
Gold imports.....	26,518,761	12,561,937
Gold exports.....	7,160,077	3,391,728
Silver imports.....	88,310,130	41,832,509
Silver exports.....	11,040,544	2,456,642

\*Including recoinage of Indian coins, 217,004; including coinage of foreign coins, 7,860,092 tolas.

†Includes recoinage of 224,061.

*Ceylon.*—Mr. William Morey, United States consul, furnishes, under date of March 11, 1887, the information desired respecting the calendar year 1886, and also replies to the first four interrogatories of the Department relating to the calendar year 1885. The unit of account is 1 cent, 100th part of a rupee, the standard being silver. Indian rupees and fractions of rupees constitute the currency.

Items reported for 1886.	Rupees.	Equivalent, in United States money.
Imports of silver coin.....	5,060,600	\$2,397,206
Exports of silver coin.....	1,260,600	597,146

Under authority which took effect on the 1st of January, 1885, 5,012,165 rupees of paper money were issued by the end of 1886. The total amount of coined money in the island is about \$5,000,000, the number of inhabitants some 3,000,000.

*Canada.*—Mr. Thomas W. Hotchkiss, United States commercial agent at Ottawa, transmits a report under date of February 16, 1887, in reply to questions 1, 2, 3, and 4 of the circular of January 1, 1886, and to the interrogatories in the circular of January 1, 1887.

The money of account in Canada is dollars and cents. The gold coins of England and the United States are full legal tender.

Items reported for 1886.	Value.
Coinage of silver (in England).....	\$225,000
Imports of coin and bullion.....	972,390
Exports of coin and bullion.....	9,100

*Cape Colony.*—Mr. James W. Siler, United States consul at Cape Town, transmits under date of March 14, 1887, in reply to the interroga-

ories of the Department, a report of the assistant treasurer-general of Cape Colony.

Items.	Amount.	Equivalent in United States money.
<i>Items reported for 1885.</i>		
<b>Imports:</b>		
Gold coin .....	£200, 438	\$975, 432
Gold bullion .....	921	4, 482
Total .....	201, 359	979, 914
<b>Exports:</b>		
Gold coin .....	371, 663	1, 808, 698
Gold bullion .....	170	827
Gold bars, dust, and nuggets .....	17, 321	84, 293
Total .....	389, 154	1, 893, 818
Loss by export .....	187, 795	913, 904
<b>Imports:</b>		
Silver coin .....	18, 346	89, 281
Silver bullion .....	10	49
Total .....	18, 356	89, 330
<b>Exports:</b>		
Silver coin .....	41, 127	200, 145
Silver bullion .....	440	2, 141
Total .....	41, 567	202, 286
Loss by export .....	23, 211	112, 956
<i>Items reported for 1886.</i>		
<b>Imports:</b>		
Gold coin .....	171, 050	832, 415
Gold bullion .....	2, 050	9, 976
Total .....	173, 100	842, 391
<b>Exports:</b>		
Gold coin .....	155, 024	754, 424
Gold bullion .....	240	1, 168
Gold bars, dust, and nuggets .....	23, 914	116, 377
Total .....	179, 178	871, 969
<b>Imports:</b>		
Silver coin .....	500	2, 433
<b>Exports:</b>		
Silver coin .....	26, 028	126, 665
Silver bullion .....	105	511
Total .....	26, 133	127, 176
Loss by export .....	25, 633	124, 743



## FRANCE AND FRENCH COLONIES.

*France.*

Items reported for 1886.	Kilograms.	Amount.	Equivalent in United States money.
Coinage:		<i>Francs.</i>	
Gold .....		*25,086,700	\$4,841,733
Silver for France, subsidiary .....		154,379	29,795
		<i>Piasters.</i>	
Silver for Indo-China .....		3,215,771	3,215,771
		<i>Gourdes.</i>	
Silver for Hayti .....		150,000	144,750
Imports:		<i>Francs.</i>	
Gold coin .....		153,529,600	29,631,213
Gold bullion .....		107,121,545	20,674,457
Total .....		260,651,145	50,305,670
Exports:			
Gold coin .....		121,560,925	23,461,259
Gold bullion .....		76,528,731	14,770,045
Total .....		198,089,656	38,231,304
Gain by import .....		62,561,489	12,074,366
Imports:			
Silver coin .....		157,797,967	30,455,008
Silver bullion .....		24,965,743	4,818,388
Total .....		182,763,710	35,273,396
Exports:			
Silver coin .....		124,251,361	23,980,513
Silver bullion .....		10,687,682	2,062,723
Total .....		134,939,043	26,043,236
Gain by imports .....		47,824,667	9,230,160
Production of mines 1885:			
Silver .....	51,000	8,205,092	1,583,583
Manufactured goods stamped, 1886:			
Gold .....	8,548		
Silver .....	75,803		

\* Includes 1,500,000 francs coined for Monaco.

The report of the *Commission de Contrôle*, corresponding to the Assay Commission of the United States or to the Goldsmiths' Jury of England, on the monetary circulation of France, is published in the Appendix, and shows how closely the French coinage conforms to the legal standard as to weight and fineness.

*Guadeloupe.*—Mr. Charles Bartlett, United States consul at Guadeloupe, West Indies, replies, under date of March 1, 1887, to the interrogatories for the calendar year 1886, and also to the first four interrogatories relative to the calendar year 1885.

The money of Guadeloupe, a French colony, is coined in France. The specie in bank at the end of the calendar year 1886 was 2,186,854 francs, and the bank-notes in circulation on the same date amounted to 5,293,050 francs.

Items reported for 1886.	Francs.	Equivalent in United States money.
Imports from France, French gold .....	200,000	\$38,600
Exports, French gold.....	30,000	5,790
Imports, French silver.....	441,350	85,181
Exports:		
French silver .....	573,252	110,638
Foreign silver .....	50,000	9,650

*Algeria.*—Mr. Charles T. Grellet, United States consul at Algiers, transmits, under date of April 4, 1887, two communications, one containing information called for by the circular of January 1, 1887, and the other, replies to the first four interrogatories of the circular of the preceding year.

The legal unit of account is the franc; the standard, double. The same coins are used as in France.

Items reported for 1886.	Kilograms.	Amount.	Equivalent in United States money.
Imports of silver coin.....		<i>Francs.</i> 15,033,995	\$2,901,561
Exports of silver coin.....		6,917,428	1,335,064
Exports of silver bullion.....	57.950		38,514
Metals stamped, gold and silver:			
Gold .....		572,289	110,452
Silver.....		701,969	135,480

#### BELGIUM.

Mr. Lambert Tree, minister resident of the United States at Brussels, reports, under date of March 21, 1887, information from the Kingdom of Belgium, requested by this Bureau:

Items reported for 1886.	Francs.	Equivalent in United States money.
Silver coinage (subsidiary), recoinage of 5-franc pieces .....	4,776,000	\$921,768

Since the law of June 5, 1878, the stamping of manufactured articles of gold and silver is optional, consequently the amount reported as stamped is far from the total amount. The amount stamped in 1886 was:

Articles.	Kilograms.
Gold.....	105
Silver .....	1,866.208

In 1865, under obligatory stamping, the amount stamped was:

Articles.	Kilograms.
Gold.....	635
Silver.....	4,654

Items reported for 1886.	Amount.		Equivalent in United States money.
	Kilos.	Francs.	
Imports:			
Gold coin .....	1, 145		\$760, 967
Gold bars .....	2, 126		1, 412, 940
Gold jewelry .....		1, 903, 166	367, 311
Exports:			
Gold coin .....	781		519, 053
Gold bars .....	84		55, 826
Gold jewelry .....		31, 040	5, 991
Imports:			
Silver coin .....	65, 095		2, 705, 348
Silver bars .....	2, 513		104, 440
Silver ore .....	412, 818		
Silver jewelry .....		1, 069, 712	206, 454
Exports:			
Silver coin .....	326		13, 549
Silver bars .....	4, 764		197, 992
Silver jewelry .....		116, 786	22, 540

## SWITZERLAND.

Mr. Boyd Winchester, minister resident and consul-general of the United States at Berne, reports, under date of 17th February, information requested by the Department circular for the year 1886; and under date of 2d July, 1887, a resolution of the Swiss Federal Assembly authorizing the receipt at public and private institutions of certain foreign coins at fixed rates in francs.

Items reported for 1886.	Amount.		Equivalent in United States money.
	Kilograms.	Francs.	
Coinage:			
Gold .....		5, 000, 000	\$965, 000
Silver .....		2, 600, 000	501, 800
Total .....		7, 600, 000	1, 466, 800
Imports of gold coin and bullion .....	3, 796	13, 096, 200	\$2, 527, 567
Exports of gold coin and bullion .....	2, 905	4, 412, 586	851, 687
Imports of silver coin and bullion .....	124, 564	24, 912, 800	4, 808, 170
Exports of silver coin and bullion .....	79, 906	16, 387, 810	3, 162, 847

The resolution of the Swiss Federal Assembly referred to provides that certain foreign gold coins shall be received at the following rates in francs:

Pieces.	Francs.
Sovereign .....	25. 20
Half-sovereign .....	12. 60
20-mark piece of Germany .....	24. 70
10-mark piece of Germany .....	12. 35
5-dollar gold piece of the United States .....	25. 90

## ITALY.

Mr. John B. Stallo, United States minister at Rome, reports, under date of March 11, 1887, information for the calendar year 1886 so far as relates to the Kingdom of Italy.

Items reported for 1886.	Amount.		Equivalent in United States money.
	Kilograms.	Lire.	
Coinage:			
Gold .....		1, 180, 160	\$227, 771
Silver, recoinage .....		9, 302, 404	1, 795, 364
Imports of gold coin .....		5, 483, 039	1, 058, 227
Exports of gold coin .....		8, 935, 413	1, 724, 535
Imports of silver coin .....		42, 020, 489	8, 109, 954
Exports of silver coin .....		38, 550, 437	7, 440, 234
Production of mines:			
Gold .....	180	486, 000	93, 798
Silver .....	3, 500	6, 300, 000	1, 215, 900
Manufactured goods stamped:			
Gold .....	1, 143		
Silver .....	5, 191		

## AUSTRIA-HUNGARY.

Mr. James Fenner Lee, secretary of legation and chargé d'affaires at Vienna, communicates, under date of December 23, 1886, replies to the interrogatories of this Bureau relating to the calendar year 1885. The legal unit of account in Austria is the silver gulden (florin) of the weight of 12.3456 grams, fineness of .900. The coinage of silver for private account has been discontinued since 1879, with the exception of the Levant-thaler, a trade coin of the weight of 28.0644 grams, fineness .833.

Since 1876, custom-dues are required to be paid in gold coin, or in silver on a basis fixed for one month at the average price for the preceding month.

A paper-money régime exists, and all payments of the Government are made in notes, except when gold is required by contract. Bank-notes may be issued to the extent of 200,000,000 gulden (florins) without metallic reserve.

The production of Austria in 1885 was, approximately, 20 kilograms of gold and 36,000 kilograms of silver.

Items reported.	Amount.	Equivalent in United States money.
1885.	<i>Florins.</i>	
Gold imports .....	8, 302, 900	\$4, 001, 998
Gold exports .....	3, 955, 500	1, 006, 551
Silver imports .....	5, 250, 823	2, 530, 897
Silver exports .....	3, 369, 965	1, 024, 323
Metallic reserves, December 31, 1885:		
In the Treasury:		
Gold .....	2, 421, 260	1, 167, 047
Silver .....	6, 374, 304	3, 072, 415
In Austro-Hungarian Bank:		
Gold .....	69, 073, 000	33, 293, 186
Silver .....	129, 723, 000	62, 526, 486

Items reported.	Amount.	Equivalent in United States money.
1885.	<i>Florins.</i>	
Issue of paper money, December 31, 1885:		
State notes .....	338, 248, 952	\$163, 035, 995
Bank notes .....	362, 603, 000	174, 774, 646
Coinage, Kremnitz mint, 1885:		
Gold .....	2, 422, 645	1, 167, 715
Silver .....	1, 672, 086	805, 945
Coinage, Vienna mint, 1885:		
Gold .....	3, 369, 799	1, 624, 243
Legal-tender silver coins .....	3, 547, 740	1, 710, 011
Silver trade coins .....	2, 919, 170	1, 407, 040
Subsidiary silver .....	466, 106	224, 663
1886.		
Coinage, Kremnitz mint, 1886:		
Gold .....	2, 690, 366	1, 206, 756
Silver (standard coins) .....	1, 565, 967	754, 769
Coinage, Vienna mint, 1886:		
Gold .....	2, 878, 388	1, 387, 383
Silver (standard coins) .....	6, 895, 510	3, 323, 636
Maria Theresa thalers (trade coins) .....	634, 856	306, 000

## GERMANY.

Two reports have been received from the minister of foreign affairs of the German Empire, Count H. Bismarck, containing replies to interrogatories for the year 1886.

Items reported.	Amount.		Equivalent in United States money.
	Kilograms.	Marks.	
1886.			
Coinage:			
Gold .....		35, 740, 380	\$8, 506, 210
Recoinage .....		145, 560	34, 643
Not coinage .....		35, 594, 820	8, 471, 567
Silver .....		4, 848, 582	1, 153, 963
Imports:			
Gold coin .....	5, 507		3, 659, 952
Gold bullion .....	11, 897		7, 906, 746
Total .....	17, 404		11, 566, 698
Exports:			
Gold coin .....	4, 936		3, 280, 466
Gold bullion .....	2, 922		1, 941, 961
Total .....	7, 858		5, 222, 427
Gain by import .....	9, 546		6, 344, 271
Imports:			
Silver coin .....	50, 280		2, 069, 637
Silver bullion .....	23, 864		991, 788
Total .....	74, 144		3, 081, 425
Exports:			
Silver coin .....	98, 662		4, 100, 393
Silver bullion .....	152, 133		6, 322, 647
Total .....	250, 795		10, 423, 040
Loss by export .....	176, 651		7, 341, 615
Production of mines:			
Gold .....	1, 065	2, 974, 000	707, 812
Silver .....	319, 598	42, 708, 000	10, 164, 504

A considerable portion of this was doubtless from foreign ores smelted.

A table will be found in the Appendix showing the total coinage of the German mints to the close of the year 1886; also the coinage struck in 1886 at the Royal Mint at Berlin for the Egyptian Government.

## NETHERLANDS.

Mr. Isaac Bell, jr., minister resident of the United States at The Hague, forwards, under date of March 4, 1887, a memorandum prepared at the ministry of finance in reply to interrogatories.

Items reported for 1886.	Amount.		Equivalent in United States money.
	Kilograms.	Florins.	
Gold coinage.....		541, 410	\$217, 647
Imports:			
Gold coin.....		14, 185, 191	5, 702, 447
Gold bullion.....		13, 137, 211	5, 281, 159
Total.....		27, 322, 402	10, 983, 606
Exports:			
Gold coin.....		513, 950	206, 608
Gold bullion.....		1, 372, 000	551, 544
Total.....		1, 885, 950	758, 152
Net gain by import.....		25, 436, 452	10, 225, 454
Imports:			
Silver coin.....		824, 205	331, 330
Silver bullion.....		599, 623	241, 048
Total.....		1, 423, 828	572, 378
Exports:			
Silver coin.....		24, 802	9, 970
Silver bullion.....		4, 100	1, 648
Total.....		28, 902	11, 618
Gain by import.....		1, 394, 926	560, 760
Manufactured goods stamped:			
Gold.....	1, 044		
Silver.....	10, 924		

## PORTUGAL.

Mr. E. P. C. Lewis, minister resident and consul-general of the United States at Lisbon, furnished, under date of November 20, 1886, replies to the interrogatories for the calendar year 1885, and under date of March 4, 1887, information for the year 1886.

The money of account is the real. The legal standard is gold and silver, but, as a matter of fact, Portugal has a single gold standard. The fineness of both the gold and silver coins is .916 $\frac{2}{3}$ . The weight of

10,000 reis of gold coin is 17.735 grams, and the same proportion exists for other gold coins.

Items reported for 1885.	Amount.	Equivalent in United States money.
	<i>Milreis.</i>	
Gold coinage .....	228,000	\$246,240
Imports:		
Gold .....	4,067,000	4,392,360
Silver .....	109,716	118,493
Exports:		
Gold .....	819,333	884,880
Silver .....	26,519	28,640

The gold in circulation in Portugal consists principally of English sovereigns. It may be estimated at 6,000,000 milreis. The silver in circulation (limited tender) is about 9,000,000 milreis. Bank-notes in circulation at the close of 1885 amounted to 7,076,345 milreis.

Items reported for 1886.	Milreis.	Value in United States money.
Gold coinage .....	166,320	\$179,626
Recoinage .....	54,000	58,320
Net coinage .....	112,320	121,306
Silver coinage .....	277,560	299,765
Imports of gold coin .....	9,448,364	10,204,233
Exports of gold coin .....	3,737	4,026
Gain by imports .....	9,444,627	10,200,197
Imports of silver coin .....	637,189	688,164
Exports of silver coin .....	3,886	4,196
Gain by imports .....	633,303	683,967

The minister incloses a copy of the decree of 1886 authorizing the coinage of 200,000 milreis in silver. A decree was issued July 1, 1886, directing the withdrawal from circulation of all foreign silver coins in the Cape Verde Islands. Copies of both decrees will be found in the Appendix.

#### SCANDINAVIAN UNION.

*Sweden.*—The United States minister resident at Stockholm furnishes, under date of August 25, 1887, information concerning the coinage and moneys of Sweden for 1886.

Items reported for 1886.	Amount.		Equivalent in United States money.
	Kilograms.	Crowns.	
Coinage:			
Gold.....		3,664,880	\$982,188
Imports:			
Gold coin.....		846,307	226,810
Gold bullion.....	1,602		
Imports:			
Silver coin.....		534,130	143,147
Silver bullion.....	321		
Exports:			
Silver coin.....		171,000	45,828
Silver bullion.....	215		
Production of mines:			
Gold.....	67,341	167,008	44,758
Silver.....	\$3,080,928	362,397	128,046
Manufactured goods stamped:			
Gold.....	302,048		200,741
Silver.....	1,904,008		79,130

*Denmark.*—Mr. Rasmus B. Anderson, minister resident and consul-general of the United States at Copenhagen, forwards, under date of April 19, 1887, information in regard to the coinage, production, etc., of the Kingdom of Denmark, furnished by the minister of foreign affairs.

Items reported for 1886.	Amount.	Equivalent in United States money.
	<i>Crowns.</i>	
Silver coinage.....	50, 836	\$13, 624
Gold imports.....	4, 000, 000	1, 072, 000
Gold exports.....	1, 000, 000	268, 000

November 27, 1886, was signed a treaty between Denmark, Norway, and Sweden binding the mints of the respective countries to receive gold for coinage, when the amount is, at least, half a million crowns. It was left optional, however, for each nation to fix a lower limit. In consequence, individuals do not make deposits of gold, but those having small quantities dispose of it to banks and private exchanges.

*Norway.*—An official reply from the Norwegian Government has not yet been received. It is known, however, that there was a gold coinage executed at the Kongsberg mint during 1886 amounting to 2,013,000 crowns.

#### TURKEY.

Mr. Pendleton King, chargé d'affaires at Constantinople, reports, under date of February 10, 1887, replies to the interrogatories regarding the calendar year 1886, and, under date of February 11, 1887, replies to the first four interrogatories of the circular of the preceding year. He also transmits, under date of February 15, 1887, a copy of a circular prohibiting the entry and circulation of foreign silver money in the Turkish Empire.



The unit of account is the piaster. Mr. King states that a double standard prevails, but that, as a matter of fact, Turkey has adopted the single gold standard.

Items reported for 1886.	Amount.	Equivalent in United States money.
<b>Coinage:</b>	<i>Turk. pounds.</i>	
Gold .....	830,000	\$3,652,000
Silver, recoinage into small coins .....	200,000	880,000
<b>Production of mines:</b>		
Gold .....	1,563	6,777
Silver .....	12,596	55,422

The circular of the Sublime Porte of the date of February 14, 1887, provides that after the 13th of April of this year all foreign silver coins arriving at the post-offices or custom-houses shall be returned to the place from which they came.

## RUSSIA.

Items reported for 1886.	Poods.	Kilograms.	Roubles.	Equivalent in United States money.
<b>Coinage:</b>				
Gold .....			19,126,350	\$14,761,717
Silver (legal-tender) .....			489,635	377,900
Silver (subsidiary) .....			1,200,053	926,201
Gold imports .....	165			1,796,302
Gold exports .....	1,003			10,919,340
Silver imports .....	5,521			3,758,620
Silver exports .....	2,848			1,938,879
<b>Production of mines:</b>				
Gold .....		30,872.494	26,583,274	20,516,971
Silver .....		12,707.137	706,103	528,000
<b>Manufactured goods stamped:</b>				
Gold .....		4,915		3,266,509
Silver .....		61,330		2,548,875

During the year 1886 the new coinage law, a copy of which was printed in my last annual report, was put in force.

In the Appendix will be found a table showing the circulation of paper money; and the rate of exchange of the rouble from 1834 to 1884, inclusive, taken from a financial paper prepared by Dr. H. Kaufmann, and published by the home department.

## FINLAND.

Through the courtesy of Mr. C. P. Solitander, intendant of the mining office in Finland, this Bureau is furnished, under date of May 12, 1887, with a statement of the production of gold and silver in Finland for a series of years, and in the Russian Empire for 1883.

Production of Russia for 1883.	Poods.	Equivalent in United States money.
Gold .....	1,848	\$20,118,584
Silver.....	591	402,345

This Bureau has lost an esteemed correspondent by the death of Mr. Furuhjelm, Master of the Mint in Finland, who for several years has courteously furnished this Bureau with valuable information in regard to the production of the precious metals in his own country and in the Russian Empire.

## EGYPT.

Mr. John Cardwell, consul-general at Cairo, Egypt, furnished, under date of March 21, 1887, information in reply to the interrogatories of the Department for the calendar year 1886, and also to the first four interrogatories for the year 1885. Mr. Cardwell also sends specimens of the new coinage of Egypt, which have been placed in the cabinet of the mint at Philadelphia.

The monetary unit is the Egyptian pound consisting of 100 piasters. The standard is gold. The weight of the Egyptian pound is  $8\frac{1}{2}$  grams; fineness, .875.

Items reported.	Egyptian pounds.	Equivalent in United States money.
1886.		
Silver coinage (including recoinage, old Egyptian silver, 455,362 Egyptian pounds) .....	648,220	\$3,204,151
Gold coin imported .....	990,649	4,896,778
Gold coin exported .....	2,113,392	10,446,497
Gold bars exported .....	41,133	203,320
Silver coin imported.....	848,148	4,192,396
Silver coin exported .....	848,148	4,192,396
Silver bars exported.....	19,517	96,621
1885.		
Gold coin imported .....	3,299,309	16,308,484
Gold coin exported.....	1,130,118	5,586,173
Silver coin imported .....	685,458	3,388,219
Silver coin exported .....	163,542	808,388

A table showing the coinage of the mint at Cairo for a number of years will be found in the Appendix.

The reform in Egyptian coinage, referred to in my last fiscal report has been carried into effect. No gold has yet been coined, but national silver coins have been struck to supersede foreign coins heretofore in use in Egypt.

## JAPAN.

Mr. Richard B. Hubbard, minister to Japan, transmits, under date of May 3, 1887, replies from the minister of finance of the Japanese Empire to the interrogatories of the Department.

Items reported for 1886.	Amount.	Value in yens.	Equivalent in United States money.
Coinage:	<i>Ounces.</i>		
Gold .....		* 900, 165	
Silver .....		† 9, 086, 077	
Imports:			
Gold coin .....		22, 395	
Gold bullion .....	55, 723		\$1, 151, 897
Exports:			
Gold coin .....		244, 837	
Gold bullion .....	3, 355		69, 854
Imports:			
Silver coin .....		826, 870	
Silver bullion .....	6, 130, 633		7, 926, 475
Exports:			
Silver coin .....		9, 180, 656	
Silver bullion .....	136, 998		177, 129
Production of mines:			
Gold, Government mines .....	5, 540	119, 062	
Gold, private mines .....	4, 719	102, 608	
Silver, Government mines, 1886 .....	199, 200	255, 384	
Silver, private mines, 1885 .....	621, 607	778, 252	

\* Including recoinage of 294 yens.

† In one-yen pieces; including recoinage of 2,304 yens.

The coinage of Japan for the fiscal year ended March 31, 1887, was as follows:\*

Metals.	Yens.
Gold .....	1, 154, 355
Silver .....	9, 603, 713

Copies of regulations for payment of coin and bullion deposited at the mint and its branches will be found in the Appendix. Also a decree authorizing the withdrawal of 10-sen (10 cents) currency notes.

#### CHINA.

Mr. Charles Denby, minister to China, transmits, under date of March 4, 1887, an article on the copper coins in circulation in China, inclosing a decree of the Empress on the subject, and, under date of May 19, 1887, information requested for the calendar year 1886.

No gold circulates in China except in the form of ingots or bars bearing the stamp of the bank by which sold. Mr. Denby states that no silver coin is in circulation except in the western part of Su-Chuan where Indian rupees are current, and also in Thibet and countries to the north of it, where there is a small silver coin called "tanka." In Chinese Turkistan a silver coin has been issued by the Chinese authorities.

Minister Denby also transmits, under date of August 16, 1887, a translation of a memorial of the governor-general of the Two Kwangs district to the Emperor of China requesting permission to coin silver dollars to be legal tender for Government dues and in ordinary trade.

The minister states that the memorial of the governor-general was referred to the board of revenue and that it was reported upon adversely. It is stated that the governor-general has purchased from Messrs. Ralph Heaton & Sons, of Birmingham, England, ninety coinage presses and the necessary machinery for a mint, which has been erected in Canton, specially for the coinage of copper cash.

## SIAM.

Mr. Jacob T. Child, United States minister to Siam, furnishes, under date of June 8, 1887, information in reply to interrogatories.

The coin in use in the Kingdom is silver and copper. The American trade-dollar and the Mexican dollar are recoined into "ticals," the "tical" being worth from 48 to 50 cents. Its weight is 26.9 grams. The "tical" is the unit of account.

Items reported for 1886.	Value.
Imports of gold-leaf .....	\$101, 287
Imports of silver coin .....	1, 875, 726
Exports of silver coin .....	773, 000

\*Report of Commissioner of the Imperial Mint, 1887.

## MEXICO.

Mr. Thomas C. Manning, United States minister-resident in Mexico, furnishes, under date of May 18, 1887, a communication from Mr. Mariscal, of the department of foreign affairs, inclosing statistical data in reply to the Bureau's list of questions:

Items reported for fiscal year, 1886.	Value.
Coinage:	
Gold .....	\$367, 490. 00
Silver .....	26, 991, 804. 70
Exports:	
Gold coin .....	372, 612. 00
Gold bullion .....	290, 529. 00
Silver coin .....	22, 026, 850. 00
Silver bullion .....	5, 014, 237. 00
Silver ore .....	1, 809, 836. 00
Silver, mixed .....	392, 333. 00
Product of the mines, approximate:	
Gold .....	613, 937. 00
Silver .....	33, 023, 048. 00

In the Appendix will be found a report by Consul-General Sutton on the coinage and visible supply of money in Mexico, including coinage tables covering the work of the year 1886 and prior years.

## UNITED STATES OF COLOMBIA.

No gold was coined during the year 1886 at the mint at Bogota. The mint at Popayan has long been closed.

A table showing the deposits of bullion and coinage of the mint at Medellin during 1886 will be found in the Appendix. At present all the mints are closed.

Items reported for 1886.	Kilograms.	Value.
Coinage, mint at Medellin:		
Gold .....		\$26,965.00
Silver (.835 fine) .....		314,463.50
Silver (.500 fine) .....		282,381.00
Coinage, mint at Bogota:		
Silver* .....		757,982.50
Total coinage:		
Gold .....		26,965.00
Silver .....		1,354,827.00
Net coinage .....		1,381,792.00
Production of mines, estimated:		
Gold .....	4,045	2,500,000.00
Silver .....	12,120	400,000.00

\* Recoinage of pieces of .900 and .835 fine.

Copies of decrees relating to coinage and the legal-tender issue in 1886 will be found in the Appendix.

#### VENEZUELA.

Replies to the interrogatories of the Bureau of the Mint have not been received from Venezuela.

A copy of the new coinage law of Venezuela has been transmitted by Consul Bird and will be found in the Appendix.

According to this law, the standard of Venezuela has been changed from the double (the system of the states of the Latin Union) to the single silver standard.

The name of the monetary unit, the "bolivar," is unchanged, the five-bolivar piece corresponding in weight and fineness to two half-dollars of the United States, namely, 25 grams weight, fineness .900.

Under date of October 10, 1887, Consul Bird transmits a translation of a decree of the President of Venezuela suspending the coinage of silver until June 15, 1888. The coinage of bolivars from October, 1886, to October, 1887, was 6,665,000, equal to \$1,286,345.

Tables will be found in the Appendix showing the production of the mills of the El Callao Company since construction; also the amount of gold exported monthly from Ciudad Bolivar.

#### PERU.

Mr. Charles W. Buck, United States minister-resident at Lima, transmitted, under date of June 8, 1887, a communication from the director of the national mint containing replies to the interrogatories of this Bureau so far as relate to his branch of the Government. Also a communication from the chief of the bureau of customs statistics of Callao. Also a historical sketch from the director of the mint in regard to the "Mints and Coinage of Peru." Also a communication from the director of the school of engineers and mines relative to the industrial employment of gold and silver in Peru.

Mr. Buck also transmits copies of certain decrees relating to the reception of bullion at the mint and the emission of bills.

The monetary unit of Peru is the silver sol, weighing 25 grams, the same as two half-dollars of the United States and of the same fineness as United States coins. Gold is not a legal tender.

Items reported for 1886.	Gross weight.	Sols (or dollars).
Coinage:	<i>Kilograms.</i>	
Silver.....		592, 065
Exports:		
Scrap gold and bars.....	169	
Silver bars.....	34, 997	
Scrap silver.....	6, 518	
Silver ore.....	*5, 769, 148	
Silvercoin.....		1, 008, 487

\* Said to contain 1,801,643 (probably ounces) of fine metal.

#### CHILI.

Mr. William R. Roberts, United States minister, transmits, under date of March 31, 1887, from Santiago, answers to the interrogatories contained in the circular of this Bureau for the calendar year 1886.

Items reported.	Character.	Amount.
Coinage of Chili, 1886.....	Gold.....	\$37, 210
	Silver.....	966, 080
Imports.....	Gold coin.....	900
	Gold bullion.....	2, 000
	Total.....	2, 900
Exports.....	Gold coin.....	107, 337
	Gold bullion.....	100, 970
	Total.....	208, 307
Imports.....	Silver coin.....	149, 741
	Silver bullion.....	
	Total.....	149, 741
Exports.....	Silver coin.....	540, 217
	Silver bullion.....	6, 768, 902
	Total.....	7, 309, 119
Product of mines, approximately, 1885....	Gold.....	173, 092
	Silver.....	7, 495, 345
	Total.....	7, 668, 437
Paper money outstanding December 31, 1886.	Government notes.....	16, 000, 000
	Bank notes.....	13, 512, 835
	Total.....	29, 512, 835

Chili being under a paper régime, coin does not circulate except for change purposes.

## URUGUAY.

Mr. John E. Bacon, United States chargé d'affaires to Paraguay and Uruguay, transmitted, under date of May 31, 1887, and under date of June 7, 1887, information desired for the calendar year 1886.

The metallic currency consists of silver coined in Paris.

Items reported.	Value.
Imports of gold.....	\$4, 889, 001
Export of gold coin.....	6, 726, 718

## BRAZIL.

Under date of May 9, 1887, the minister of foreign affairs of the Empire of Brazil transmitted to Mr. Charles B. Trail, chargé d'affaires of the United States, information for the calendar year 1886, and also replies to the interrogatories for the calendar year 1885. Copies of laws and decrees regulating the mints and the issue of coin and paper money were inclosed.

The unit of account is the real and the standard gold. The fineness of gold and silver coins is .917. The gold coin of twenty milreis weighs 17.930 grams; other gold coins in proportion. Silver coins are subsidiary, the piece of two milreis weighing 25.5 grams, the others proportionately.

Items imported.	Character.	Value in milreis.	Equivalent in United States money.
Coinage, 1885 .....	Gold.....	106, 920	\$58, 378
	Silver .....	22, 142	12, 090
Coinage, 1886 .....	Gold .....	37, 826	20, 653
	Silver.....	55, 629	30, 373
Coinage, 1703 to 1884.....	Gold.....	263, 374, 880	143, 802, 684
	Silver.....	35, 890, 913	19, 596, 438
Exports, 1885 .....	Gold bullion .....	1, 464, 603	799, 673
	Silver bars.....	8, 019	4, 378
Exports, 1886 .....	Gold bars and wire .....	1, 549, 754	846, 166
	Silver bullion.....	56, 472	30, 834
Paper money in circulation December 31, 1885.	Treasury notes .....	191, 296, 369	104, 447, 817
	Notes of Bank of Brazil.....	19, 306, 000	10, 541, 076

Almost all the gold in circulation in Brazil is foreign coin.

## HAYTI.

Mr. John E. W. Thompson, United States consul-general at Port-au-Prince, Hayti, transmitted, under date of March 31, 1886, replies to the interrogatories for the calendar year 1885. Also a copy of the coinage laws and regulations, and a copy of the monetary decree of September 28, 1880, placing the coinage of the new national money in charge of the national bank.

The money of account is the gourde; the standard double, corresponding to the French system, all coinage being executed at the mint at Paris of the same standard as French money. The one-gourde piece of gold and of silver corresponds in weight and fineness with the five-franc piece of France. No gold has ever been coined. A silver coinage of the value of 150,000 gourdes in ten-cent pieces was executed at the mint at Paris in 1886. The total coinage of silver to date is \$2,000,000.

## HAWAIIAN ISLANDS.

Mr. George W. Merrill, United States minister resident at Honolulu, furnishes, under date of February 28, 1887, information relative to 1886, and also a copy of the act regulating the currency of the Hawaiian Kingdom. This will be found in the Appendix.

Gold coin.	Amount.
Imported.....	\$1,142,946.10
Exported.....	43,128.20

By an act passed in 1886 the gold coins of the United States are a legal tender for all debts, public and private, and the silver coins of the Hawaiian Kingdom are reduced from a full legal tender to a tender not exceeding \$10. The minister remarks, however, that the United States silver coins still circulate and are received in business circles at their nominal value.

## PARAGUAY.

Under date of September 30, 1887, Mr. John E. Bacon, chargé d'affaires, furnishes the information requested for the calendar year 1886.

Paraguay has no mint. The values of the foreign coins, as fixed by law, are given.

## LIBERIA.

Mr. Samuel S. Sevier, United States vice-consul-general at Monrovia, Liberia, states, under date of March 9, 1887, that there is no production of precious metals in that republic. United States notes are at par in Liberia.

## WORK OF THE BUREAU OF THE MINT.

In closing the present report, I take occasion to commend to the attention of the Department certain expediciencies suggested in the last two previous reports as to the organization of this Bureau.\*

Acknowledgments are due to the officers and clerical staff for the zeal and accuracy with which the laborious work of this Bureau has been performed. The preparation of its two annual reports, namely,

\* Report for 1885, p. 31; 1886, p. 77. (Finance Report, 1885, p. 185; 1886, p. 231.)



the one here submitted, and the report for the calendar year 1886 on the Production of the Precious Metals in the United States, has required much extra labor and diligence on the part of all. In the present, as in the latter report, the editorial and statistical labors have been shared with the Computer of Bullion, Mr. E. O. Leech.

I am, very respectfully, yours,

JAMES P. KIMBALL,  
*Director of the Mint.*

Hon. CHARLES S. FAIRCHILD,  
*Secretary of the Treasury.*

## APPENDIX.

## I.—DEPOSITS AND PURCHASES OF GOLD AND SILVER, BY

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
<b>GOLD.</b>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>
United States bullion (domestic production).....	7,261.319	1,139,758.360	5,771.785	.....
United States coin .....	6,861.051	1,150.238	.....	1,562.276
Foreign bullion .....	1,353.658	22,127.126	.....	1,374.482
Foreign coin .....	104.136	73,491.167	.....	519.476
Jewelers' bars, old plate, etc.....	38,482.753	1,693.725	.....	2,270.763
<b>Total</b> .....	<b>54,062.917</b>	<b>1,238,229.616</b>	<b>5,771.785</b>	<b>5,726.997</b>
Re-deposits:				
Fine bars .....				
Unparted bars .....	134,186.385	.....	15.546	.....
<b>Total gold received and operated upon</b> .....	<b>188,249.302</b>	<b>1,238,229.616</b>	<b>5,787.331</b>	<b>5,726.997</b>
<b>SILVER.</b>				
United States bullion (domestic production).....	18,173,263.30	501,970.74	62,857.65	9,992,515.41
United States coin .....	625,196.00	32,709.49	.....	2,293.27
Trade dollars .....	2,529,100.33	524,770.44	.....	46.51
Foreign bullion .....	1,515.12	666,274.66	.....	2,029.87
Foreign coin .....	3,079.80	4.42	.....	33,720.18
Jewelers' bars, old plate, etc.....	128,996.79	466.03	.....	25,203.60
<b>Total</b> .....	<b>21,515,151.34</b>	<b>1,726,195.78</b>	<b>62,857.65</b>	<b>10,055,808.84</b>
Re-deposits:				
Fine bars .....	112,076.16	.....	.....	.....
Unparted bars .....	227,544.00	.....	456.91	.....
<b>Total silver received and operated upon</b> .....	<b>21,854,771.50</b>	<b>1,726,195.78</b>	<b>63,314.56</b>	<b>10,055,808.84</b>
<b>Gold and silver deposits and purchases</b> .....	<b>21,569,214.257</b>	<b>2,964,425.396</b>	<b>68,629.435</b>	<b>10,061,535.837</b>
Re-deposits:				
Gold .....	134,186.385	.....	15.546	.....
Silver .....	339,620.160	.....	456.91	.....
<b>Total gold and silver received and operated upon</b> .....	<b>22,043,020.802</b>	<b>2,964,425.396</b>	<b>69,101.891</b>	<b>10,061,535.837</b>

## APPENDIX.

WEIGHT, DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>	<i>Standard ounces.</i>
433,422.667	83,584.641	19,108.177	68,527.782	11,896.481	2,969.012	1,772,300.224
17,534.207	38.219	.....	.....	.....	632.933	27,787.924
1,188,082.371	83.084	.....	.....	.....	188.197	1,213,208.918
457,796.753	.....	.....	.....	.....	26.004	531,937.536
77,100.017	238.342	.....	.....	82.101	1,887.867	121,755.568
2,173,936.015	83,944.286	19,108.177	68,527.782	11,978.582	5,704.013	3,666,990.170
627,594.857	.....	.....	.....	.....	.....	627,594.857
47,752.398	543.637	4,409.733	2,069.046	.....	90.125	189,066.870
2,849,283.270	84,487.923	23,517.910	70,596.828	11,978.582	5,794.138	4,483,651.897
3,672,649.32	18,098.83	7,665.06	116,558.97	1,151.87	1,460.78	32,548,191.93
436.60	.....	.....	.....	.....	.....	660,635.36
2,783,874.59	.....	.....	.....	.....	.....	5,837,791.87
582,203.51	25.46	.....	.....	.....	409.63	1,252,458.30
264,491.51	.....	.....	.....	.....	.....	301,295.91
229,435.49	82.76	.....	.....	24.64	2,519.53	440,728.84
7,533,091.02	18,207.05	7,665.06	116,558.97	1,176.51	4,389.99	41,041,102.21
33,600.72	.....	.....	.....	.....	.....	145,676.88
20,937.09	203.63	1,751.22	522.12	.....	36.70	251,451.67
7,587,628.83	18,410.63	9,416.28	117,081.09	1,176.51	4,426.69	41,438,230.76
9,707,027.035	102,151.336	26,773.237	185,086.752	13,155.092	10,094.003	44,708,092.380
675,347.255	543.637	4,409.733	2,069.046	.....	90.125	846,661.727
54,537.81	203.63	1,751.22	522.12	.....	36.70	397,128.55
10,436,912.100	102,898.603	32,934.190	187,677.918	13,155.092	10,220.828	45,921,882.657

## II.—DEPOSITS AND PURCHASES OF GOLD AND SILVER,

Description.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
<b>GOLD.</b>				
United States bullion (domestic production).....	\$135, 094. 31	\$21, 204, 806. 69	\$107, 382. 05	.....
United States coin .....	127, 647. 46	21, 567. 22	.....	\$29, 065. 60
Foreign bullion.....	25, 184. 33	411, 667. 46	.....	25, 571. 76
Foreign coin .....	1, 937. 41	1, 307, 277. 52	.....	9, 664. 67
Jewelers' bars, old plate, etc .....	715, 958. 19	31, 511. 16	.....	42, 246. 75
Total.....	1, 005, 821. 70	23, 036, 830. 05	107, 382. 05	106, 548. 78
Re-deposits:				
Fine bars .....	.....	.....	.....	.....
Unparted bars .....	2, 496, 490. 89	.....	289. 23	.....
Total gold received and operated upon .....	3, 502, 312. 59	23, 036, 830. 05	107, 671. 28	106, 548. 78
<b>SILVER.</b>				
United States bullion (domestic production).....	21, 147, 070. 01	584, 111. 39	73, 143. 44	11, 627, 654. 30
United States coin .....	727, 500. 81	38, 061. 94	.....	2, 668. 53
Trade-dollars.....	2, 942, 953. 10	610, 641. 97	.....	54. 12
Foreign bullion .....	1, 763. 04	775, 301. 43	.....	2, 362. 03
Foreign coin .....	3, 583. 75	5. 14	.....	39, 238. 03
Jewelers' bars, old plate, etc.....	212, 941. 70	542. 28	.....	29, 327. 82
Total.....	25, 035, 812. 41	2, 008, 604. 15	73, 143. 44	11, 701, 304. 83
Re-deposits:				
Fine bars.....	130, 415. 89	.....	.....	.....
Unparted bars .....	264, 778. 47	.....	531. 68	.....
Total silver received and operated upon .....	25, 431, 006. 77	2, 008, 604. 15	73, 675. 12	11, 701, 304. 83
Gold and silver deposits and purchases.....	26, 041, 634. 11	25, 045, 494. 20	180, 525. 49	11, 807, 853. 61
Re-deposits:				
Gold .....	2, 496, 490. 89	.....	289. 23	.....
Silver .....	395, 194. 36	.....	531. 68	.....
Total gold and silver received and operated upon .....	28, 933, 319. 36	25, 045, 494. 20	181, 346. 40	11, 807, 853. 61

BY VALUE, DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
\$8,063,677.52	\$1,555,063.09	\$355,500.97	\$1,274,935.48	\$221,329.87	\$55,237.43	\$32,973,027.41
326,217.80	711.05	.....	.....	.....	11,775.50	516,984.63
22,103,858.06	1,545.75	.....	.....	.....	3,501.34	22,571,328.70
8,517,148.89	.....	.....	.....	.....	483.79	9,896,512.28
1,434,418.92	4,434.27	.....	.....	1,527.46	35,123.10	2,265,219.85
40,445,321.19	1,561,754.16	355,500.97	1,274,935.48	222,857.33	106,121.16	68,223,072.87
11,676,183.38	.....	.....	.....	.....	.....	11,676,183.38
888,416.70	10,114.18	82,041.54	38,493.87	.....	1,676.74	3,517,523.15
53,009,921.27	1,571,868.34	437,542.51	1,313,429.35	222,857.33	107,797.90	83,416,779.40
4,273,628.29	21,060.45	8,919.34	135,632.24	1,340.35	1,699.80	37,874,259.61
508.04	.....	.....	.....	.....	.....	768,739.32
3,239,417.70	.....	.....	.....	.....	.....	6,793,066.89
677,473.17	29.62	.....	.....	.....	476.72	1,457,406.01
307,771.94	.....	.....	.....	.....	.....	350,598.86
266,979.47	96.30	.....	.....	28.67	2,931.82	512,848.06
8,765,778.61	21,186.37	8,919.34	135,632.24	1,369.02	5,108.34	47,756,918.75
39,099.02	.....	.....	.....	.....	.....	169,514.91
24,363.15	236.95	2,037.77	607.56	.....	42.70	292,598.28
8,829,240.78	21,423.32	10,957.11	136,239.80	1,369.02	5,151.04	48,219,031.94
49,211,099.80	1,582,940.53	364,420.31	1,410,567.72	224,226.35	111,229.50	115,979,991.62
12,564,600.08	10,114.18	82,041.54	38,493.87	.....	1,676.74	15,193,706.53
63,462.17	236.95	2,037.77	607.56	.....	42.70	462,113.19
61,839,162.05	1,593,291.66	448,499.62	1,449,669.15	224,226.35	112,948.94	131,635,811.34

III.—DEPOSITS OF UNREFINED GOLD OF DOMESTIC PRODUCTION, WITH THE STATES  
DISTRIBUTED, DURING THE FISCAL

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
Alabama .....	\$601. 27			
Alaska .....		\$85, 672. 93		
Arizona .....	1, 147. 07	166, 965. 15		
California .....	214. 10	4, 944, 506. 49	\$8, 960. 17	
Colorado .....	20, 964. 88	442. 12		
Dakota .....	1, 689. 13	762. 08		
Georgia .....	3, 081. 77			
Idaho .....	10, 964. 78	269, 903. 13		
Maryland .....	198. 85			
Michigan .....	29, 971. 18			
Montana .....	37. 55	15, 038. 73		
Nebraska .....				
Nevada .....		430, 378. 55	93, 421. 88	
New Mexico .....	361. 08	22, 030. 31		
North Carolina .....	36, 945. 71			
Oregon .....		381, 397. 34		
South Carolina .....	4, 651. 55			
Tennessee .....				
Texas .....				
Utah .....		95, 643. 61		
Vermont .....				
Virginia .....	4, 703. 31			
Washington .....		43, 472. 24		
Wyoming .....	3, 302. 12			
Other sources .....	7, 020. 89	32, 796. 78		
Total Unrefined .....	125, 855. 24	6, 489, 009. 46	107, 382. 05	
Refined. ....	9, 239. 07	14, 715, 797. 23		
Grand total .....	135, 094. 31	21, 204, 806. 69	107, 382. 05	

AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION NOT YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
\$1,874.64					\$77.45	\$2,553.36
						85,672.93
42,694.77	\$17,600.26				123.23	228,530.48
225,073.05	1,405.75				741.38	5,180,900.94
777,718.56	1,141,365.78				14,433.30	1,954,924.64
2,459,655.87					214.20	2,462,321.28
4,792.32				\$117,240.06		125,114.15
23,349.86	13,516.76	\$295,821.70	\$172,546.12			786,102.35
						198.85
15.20						29,986.38
1,117,251.01			1,097,555.35			2,229,882.64
	126.71					528,927.14
125,955.46	98,509.21				39,118.10	285,974.16
9,712.86				59,005.85		105,664.42
		59,679.27				441,076.61
				45,083.96		49,735.51
179.29						179.29
15,887.68						111,531.29
4,570.18						9,282.49
			4,834.01			48,306.25
	2,574.38					5,876.50
451,320.90					529.77	491,668.34
5,260,060.65	1,275,098.85	355,500.97	1,274,935.48	221,329.87	55,237.43	15,164,410.00
2,803,616.87	279,964.24					17,808,617.41
8,063,677.52	1,555,063.09	355,500.97	1,274,935.48	221,329.87	55,237.43	32,973,027.41

IV.—DEPOSITS OF UNREFINED SILVER OF DOMESTIC PRODUCTION, WITH THE STATES  
DISTRIBUTED, DURING THE FISCAL

Locality.	COINAGE MINTS.			
	Philadelphia.	San Francisco.	Carson.	New Orleans.
Alabama .....	\$1.37			
Alaska .....		\$918.49		
Arizona .....	41.88	72,958.63		
California .....	1.66	57,861.95	\$252.16	
Colorado .....	5,093.77	2.76		
Dakota .....	7.44	6.70		
Georgia .....	25.83			
Idaho .....	347.98	5,290.84		
Maryland .....	.05			
Michigan .....	7,973.36			
Montana .....	.15	66.45		
Nebraska .....				
Nevada .....		426,679.76	72,891.28	
New Mexico .....	7.78	458.31		
North Carolina .....	194.30			
Oregon .....		3,727.12		
South Carolina .....	24.76			
Tennessee .....				
Texas .....				
Utah .....		15,664.94		
Vermont .....				
Virginia .....	21.63			
Washington .....		409.17		
Wyoming .....	19.02			
Other sources .....	212.01	66.27		
Total Unrefined .....	13,972.99	584,111.39	73,143.44	
Refined .....	21,133,097.02			\$11,627,654.30
Grand total .....	21,147,070.01	584,111.39	73,143.44	11,627,654.30



- AND TERRITORIES PRODUCING THE SAME, AND OF REFINED DOMESTIC BULLION NOT YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
\$0.33					\$0.76	\$2.46
						918.49
17,129.28	\$232.11				.81	90,362.71
1,127.80	11.10				13.97	59,268.64
375,608.13	17,986.02				230.43	398,921.11
226,928.49					4.72	226,947.35
16.45				\$442.96		485.24
191,644.42	1,312.98	\$8,227.05	\$1,954.26			208,777.53
						.05
23,296.43						31,269.70
492,325.85			133,629.74			626,022.19
47,240.14	3.99					546,815.17
432,955.30	954.07				1,050.58	435,426.04
177.10				604.97		976.37
		692.29				4,419.41
				292.42		317.18
55,757.46						71,422.40
26.31						47.94
			48.24			457.41
	37.15					56.17
225,580.02					8.11	225,866.41
2,089,813.51	20,537.42	8,919.34	135,632.24	1,340.35	1,309.38	2,928,780.06
2,183,814.78	523.03				390.42	34,945,479.55
4,273,628.29	21,060.45	8,919.34	135,632.24	1,340.35	1,699.80	37,874,259.61

## V.—COINAGE EXECUTED AT THE MINTS OF THE UNITED •

Denomination.	PHILADELPHIA.		SAN FRANCISCO.	
	Pieces.	Value.	Pieces.	Value.
Gold:				
Double eagles .....	1,114	\$22,280.00		
Eagles .....	67	670.00	756,000	\$7,560,000.00
Half eagles .....	75	375.00	2,960,000	14,800,000.00
Three dollars .....	1,167	3,501.00		
Quarter eagles .....	104	260.00		
Dollars .....	6,193	6,193.00		
Total gold .....	8,720	33,279.00	3,716,000	22,360,000.00
Silver:				
Dollars .....	21,290,831	21,290,831.00	766,000	766,000.00
Half dollars .....	5,831	2,915.50		
Quarter dollars .....	5,831	1,457.75		
Dimes .....	10,054,669	1,005,466.90	898,126	89,812.60
Total silver .....	31,357,162	22,300,671.15	1,664,126	855,812.60
Minor:				
Five cents .....	11,047,523	552,376.15		
Three cents .....	4,232	126.96		
One cent .....	39,114,754	391,147.54		
Total minor .....	50,166,509	943,650.65		
Total coinage .....	81,532,391	23,277,600.80	5,380,126	23,215,812.60

## VI.—COINAGE EXECUTED AT THE MINTS OF THE UNITED

Denomination.	PHILADELPHIA.		SAN FRANCISCO.	
	Pieces.	Value.	Pieces.	Value.
Gold:				
Double eagles .....	1,106	\$22,120.00		
Eagles .....	236,160	2,361,600.00	826,000	\$8,260,000.00
Half eagles .....	388,432	1,942,160.00	3,268,000	16,340,000.00
Three dollars .....	1,142	3,426.00		
Quarter eagles .....	4,088	10,220.00		
Dollars .....	6,016	6,016.00		
Total gold .....	636,944	4,345,542.00	4,094,000	24,600,000.00
Silver:				
Dollars .....	19,963,886	19,963,886.00	750,000	750,000.00
Half dollars .....	5,886	2,943.00		
Quarter dollars .....	5,886	1,471.50		
Dimes .....	6,377,570	637,757.00	206,524	20,652.40
Total silver .....	26,353,228	20,606,057.50	956,524	770,652.40
Minor:				
Five cents .....	3,330,290	166,514.50		
Three cents .....	4,290	128.70		
One cent .....	17,654,290	176,542.90		
Total minor .....	20,988,870	343,186.10		
Total coinage .....	47,979,042	25,294,785.60	5,050,524	25,370,652.40

STATES DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

CARSON.*		NEW ORLEANS.		TOTAL.	
Pieces.	Value.	Pieces.	Value.	Pieces.	Value.
				1,114	\$22,280.00
				756,067	7,560,670.00
				2,960,075	14,800,375.00
				1,167	3,501.00
				104	260.00
				6,193	6,193.00
				3,724,720	22,393,279.00
		11,210,000	\$11,210,000.00	33,266,831	33,266,831.00
				5,831	2,915.50
				5,831	1,457.75
				10,952,795	1,095,279.50
		11,210,000	11,210,000.00	44,231,288	34,306,483.75
				11,047,523	552,376.15
				4,232	126.96
				39,114,754	391,147.54
				50,166,509	943,650.65
		11,210,000	11,210,000.00	98,122,517	57,703,413.40

STATES, DURING THE CALENDAR YEAR ENDED DECEMBER 31, 1886.

CARSON.*		NEW ORLEANS.		TOTAL.	
Pieces.	Value.	Pieces.	Value.	Pieces.	Value.
				1,106	\$22,120.00
				1,062,160	10,621,600.00
				3,656,432	18,282,160.00
				1,142	3,426.00
				4,088	10,220.00
				6,016	6,016.00
				4,730,944	28,945,542.00
		10,710,000	\$10,710,000	31,423,886	31,423,886.00
				5,886	2,943.00
				5,886	1,471.50
				6,584,094	658,409.40
		10,710,000	10,710,000	38,019,752	32,086,709.90
				3,330,290	166,514.50
				4,290	128.70
				17,654,290	176,542.90
				20,988,870	343,186.10
		10,710,000	10,710,000	63,739,566	61,375,438.00

\* Coinage suspended March 8, 1885.

## VII.—STANDARD OUNCES IN BARS MANUFACTURED

Description.	COINAGE MINTS.				ASSAY OFFICES.
	Philadelphia.	San Francisco.	Carson.	New Orleans.	New York.
<b>GOLD.</b>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Fine bars .....	31,458.386	.....	9.180	7.399	1,525,498.285
Mint bars .....	.....	.....	.....	.....	908,133.646
Standard bars .....	.....	.....	.....	.....	230,049.648
Sterling bars .....	.....	.....	.....	.....	235,878.322
Unparted bars .....	.....	77.332	164.966	.....	3.713
Total gold .....	31,458.386	77.332	174.146	7.399	2,899,563.614
<b>SILVER.</b>					
Fine bars .....	29,655.38	588,023.11	12,068.74	.....	4,438,225.28
Mint bars .....	.....	.....	.....	.....	132,597.44
Standard bars .....	.....	.....	.....	.....	30,158.20
Sterling bars .....	.....	.....	.....	.....	651.18
Unparted bars .....	.....	11.69	7,360.49	.....	180,871.99
Total silver .....	29,655.38	588,034.80	19,429.23	.....	4,782,504.09

## VIII.—VALUE OF BARS MANUFACTURED DUR-

Description.	COINAGE MINTS.				ASSAY OFFICES.
	Philadelphia.	San Francisco.	Carson.	New Orleans.	New York.
<b>GOLD.</b>					
Fine bars .....	\$585,272.30	.....	\$170.79	\$137.65	\$28,381,363.44
Mint bars .....	.....	.....	.....	.....	16,895,509.70
Standard bars .....	.....	.....	.....	.....	4,279,993.46
Sterling bars .....	.....	.....	.....	.....	4,388,433.89
Unparted bars .....	.....	\$1,438.76	3,069.13	.....	69.08
Total gold .....	585,272.30	1,438.76	3,239.92	137.65	53,945,360.57
<b>SILVER.</b>					
Fine bars .....	34,508.07	684,245.07	14,043.62	.....	5,164,480.31
Mint bars .....	.....	.....	.....	.....	154,295.21
Standard bars .....	.....	.....	.....	.....	35,093.17
Sterling bars .....	.....	.....	.....	.....	757.74
Unparted bars .....	.....	13.60	8,564.93	.....	210,469.22
Total silver .....	34,508.07	684,258.67	22,608.55	.....	5,565,095.65

DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.					Total.
Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
					1,556,973.250
					908,133.646
					230,049.648
					235,878.322
84,487.923	23,517.910	70,596.828	11,978.582	5,794.138	196,621.392
84,487.923	23,517.910	70,596.828	11,978.582	5,794.138	3,127,656.258
					5,067,972.51
					132,597.44
					30,158.20
					651.18
18,410.68	9,416.28	117,081.09	1,176.51	4,426.69	338,755.42
18,410.68	9,416.28	117,081.09	1,176.51	4,426.69	5,370,134.75

ING THE FISCAL YEAR ENDED JUNE 30, 1887.

ASSAY OFFICES.					Total.
Denver.	Boisé.	Helena.	Charlotte.	Saint Louis.	
					\$28,966,944.18
					16,895,509.70
					4,279,993.46
					4,388,433.89
\$1,571,868.34	\$437,542.51	\$1,313,429.35	\$222,857.34	\$107,797.92	3,658,072.43
1,571,868.34	437,542.51	1,313,429.35	222,857.34	107,797.92	58,188,953.66
					5,897,277.07
					154,295.21
					35,093.17
					757.74
21,423.33	10,957.11	136,239.80	1,369.02	5,151.05	394,188.06
21,423.33	10,957.11	136,239.80	1,369.02	5,151.05	6,481,611.25

6209 FI 87—16

## IX.—STATEMENT OF EARNINGS AND EXPENDITURES OF THE UNITED STATES

## EARNINGS

Sources.	MINTS.			
	Philadelphia.	San Francisco.	New Orleans.	Carson.
Parting and refining charges.....	\$14,980.20	\$51,288.02	\$548.53	\$1,270.77
Alloy charge .....	319.46	2,209.12	6.72	10.21
Charges for assaying, melting, and stamping .....				7.20
Seignorage on standard silver dollars.....	5,086,743.37	170,623.53	2,666,191.71	
Seignorage on subsidiary silver .....	27,895.12	3,809.82		
Seignorage on minor coins .....	645,904.34			
Profits on sale of medals and proof coins.....	1,916.28			
Receipts from assays of bullion .....	165.00			
Deposit melting-room grains and sweepings.....	1,024.65	1,328.15	377.08	395.29
Surplus bullion returned by operative officers...	8,281.80	25,202.60	143.91	840.17
Gain on bullion shipped mint for coinage.....				
Proceeds of sale of old material .....	1,633.84	664.20		
Receipts from sale of by-products:.....				
Total.....	5,788,864.06	255,125.44	2,667,267.95	2,523.64

## EXPENDITURES

Salaries of officers and clerks .....	\$40,665.60	\$41,856.56	\$21,841.29	\$11,783.62
Wages of workmen and adjusters.....	424,899.93	169,157.64	118,173.80	17,899.00
Contingent expenses, less amount paid for wastage and loss on sweeps sold .....	111,634.15	36,430.31	36,880.68	2,354.14
Parting and refining expenses, less amount paid for wastage and loss on sweeps sold .....	6,096.54	58,902.60	25.50	3,682.99
Wastages of the operative departments.....		229.43	13,243.83	
Loss on sweeps of the year.....	5,417.46	2,028.35	3,478.37	
Expense of distributing silver dollars .....	17,257.89	4,468.32	*11,485.45	
Expense of distributing subsidiary silver coins..	1,847.37			
Expense of distributing minor coins .....	15,914.55			
Minor-coinage metal wasted .....	3,349.73			
Loss on sale of plumbic melts .....				
Total .....	627,083.31	313,073.21	*215,128.92	35,719.75

\* The expense of distributing silver dollars at New Orleans was \$12.30 more, but there was a repayment during the year of that amount on account of an overpayment in the expenses of distribution of 1886 disallowed.

MINTS AND ASSAY OFFICES FOR THE FISCAL YEAR ENDED JUNE 30, 1887.  
AND GAINS.

ASSAY OFFICES.						Total.
New York.	Denver.	Boisé.	Charlotte.	Helena.	Saint Louis.	
\$75,163.80						\$143,251.32
2,447.42						4,992.93
	\$1,995.14	\$568.17	\$328.30	\$1,772.02	\$145.68	4,816.51
						7,923,558.61
						31,704.94
						645,904.34
						1,916.28
654.00		305.00	248.00	114.00	8.00	1,494.00
3,379.26	1,329.36	103.02	387.91	439.57	256.37	9,020.66
18,316.97						52,785.45
	1,400.71	383.75	967.02	1,353.70	286.23	4,391.41
3,899.37	16.50			8.60		6,222.51
12,760.74						12,760.74
116,621.56	4,741.71	1,359.94	1,931.23	3,687.89	696.28	8,842,819.70

AND LOSSES.

\$39,202.45	\$10,629.34	\$3,000.00	\$2,750.00	\$7,700.00	\$3,478.18	\$102,907.13
23,361.00	13,248.66	3,604.60	679.50	11,821.25	1,382.50	784,227.88
9,581.12	5,112.81	1,312.02	886.35	5,996.70	478.62	210,666.90
96,592.02						165,299.65
						13,473.26
5,363.12						16,287.30
						33,211.66
						1,847.37
						15,914.55
						3,349.73
247.52						247.52
174,347.23	28,990.81	7,916.62	4,315.85	25,517.95	5,339.30	1,437,432.95

**X.—MEDALS MANUFACTURED AT THE MINT AT PHILADELPHIA DURING  
THE FISCAL YEAR ENDED JUNE 30, 1887.**

Names.	Gold.	Silver.	Bronze.
Adams Academy.....	1		
Army Marksmanship, Division Third-Class Prize.....		1	
Arthur, C. A., President.....			1
Arthur, Indian Peace.....			1
Bay State Agricultural Society.....	1	1	
Bridge.....		60	
Baltimore Female College.....		6	
Cleveland, Indian Peace.....		10	30
Carney.....		12	
Commencement of Cabinet.....		10	
Cabinet.....		1	
Department Marksmanship Prize.....	1		
Department Marksmanship Skirmish Prize.....		1	
Dodd, H. M.....	1	1	
Dennman Grammar School.....		35	
Elliott, Cresson.....	10		
Franklin School.....		25	
Field, Cyrus W.....			1
Georgetown College, Philodemic Society.....	1		
Grant, Indian Peace.....		2	1
Johnson, A., President.....			1
Ketchum, Jesse.....	6	52	
Life-Saving.....	2	32	
Lincoln and Grant.....		10	
Lincoln Grammar School.....		20	
Massachusetts Horticultural Society.....	2	17	10
Maine State Agricultural Society.....		6	
Middlesex, South, Agricultural Society.....		1	
Monroe, J., President.....			1
New York State Agricultural Society.....	3		
Norman.....	1		3
New England Agricultural Society.....		22	
North Cosmopolitan School.....		12	
New England Kennel Club.....		40	100
Pharmacy, Philadelphia College of.....	2		
Pittsburgh Female College (McKee).....	1		
Presidency Relinquished.....		5	
Pennsylvania Horticultural Society.....		3	
Portland High School.....		10	
Perry, Commodore.....			1
Pierce, F., President.....			1
Rumford.....	1	1	
Shakespeare.....	1		
Saint Louis Agricultural and Mechanical Association.....		25	3
Time Increases His Fame.....	2		
Taylor, Z., President.....			1
Vanderbilt University.....	12		
Van Buren, Indian Peace.....		1	
Vermont State Agricultural Society.....		2	
Van Buren, M., President.....			1
Watson.....	1		
Washington and Lee University.....	6		
Washington before Boston.....			1
Washington and Jackson.....	1		
Wisconsin State Agricultural Society.....		12	
	56	436	157



**XI.—MEDALS AND PROOF SETS SOLD DURING THE FISCAL YEAR ENDED  
JUNE 30, 1887.**

Description.	Medals.		Proof sets.	
	Number sold.	Value.	Number sold.	Value.
Gold.....	58	\$2,117.32	35	\$1,505.00
Silver.....	315	880.83	731	2,193.00
Bronze.....	217	242.05	3,020	362.40
Total.....	590	3,240.20	3,786	4,060.40

**XII.—COINAGE AND MEDAL DIES MANUFACTURED AT THE MINT AT  
PHILADELPHIA DURING THE FISCAL YEAR ENDED JUNE 30, 1887.**

Denominations.	For Philadelphia.	For San Francisco.	For Carson.	For New Orleans.	Total.
<b>FOR GOLD COINAGE:</b>					
Double eagle.....	2	10			12
Eagle.....		30			30
Half-eagle.....		70			70
Three dollar.....	2				2
Quarter-eagle.....					
Dollar.....	6				6
Total.....	10	110			120
<b>FOR SILVER COINAGE:</b>					
Standard dollar.....	107	8		108	223
Half-dollar.....	2				2
Quarter-dollar.....	2				2
Dime.....	100	32			132
Total.....	211	40		108	359
<b>FOR MINOR COINAGE:</b>					
Five-cent.....	419				419
Three-cent.....	4				4
One-cent.....	261				261
Total.....	684				684

**TOTAL NUMBER OF DIES.**

Gold coinage.....	120
Silver coinage.....	359
Minor coinage.....	684
Proof coinage.....	27
Director of the Mint.....	2
Annual assay.....	2
Reproductions:	
Thomas Jefferson.....	2
Antonio Wayne.....	2
Total.....	1,198

## XIII.—STATEMENT SHOWING THE SEIGNORAGE ON THE COINAGE OF SILVER AT THE DISPOSITION

Dr.

1886.			
July 1.	Balance on hand:		
	Philadelphia.....	\$346,834.99	
	San Francisco.....	21,866.96	
	New Orleans.....	184,499.49	
			\$553,201.44
	Seignorage on silver dollars:		
	Philadelphia.....	5,086,743.37	
	San Francisco.....	170,623.53	
	New Orleans.....	2,666,191.71	
			7,923,558.61
	Seignorage on subsidiary silver:		
	Philadelphia.....	27,895.12	
	San Francisco.....	3,809.82	
			31,704.94
<hr/>			
	Total .....		8,508,464.99

## THE MINTS OF THE UNITED STATES FROM JULY 1, 1886, TO JUNE 30, 1887, AND OF THE SAME.

CR.

Paid expenses of distribution:			
Philadelphia	\$19,105.26		
San Francisco	4,468.32		
New Orleans	11,485.45		
			\$35,059.03
Paid on account of wastage and loss on sale of sweeps:			
Philadelphia	4,116.31		
New Orleans	16,178.57		
			20,294.88
Deposited in U. S. Treasury as follows:			
PHILADELPHIA.			
Warrant No. 1725	346,834.99		
No. 1431	1,300,000.00		
No. 1432	475,000.00		
No. 2151	340,000.00		
No. 827	330,000.00		
No. 1352	460,000.00		
No. 1998	430,000.00		
No. 1182	440,000.00		
No. 1183	450,000.00		
No. 2043	470,000.00		
No. 2044	160,000.00		
No. 1181	200,000.00		
No. 1433	736.88		
No. 1434	27.64		
No. 1997	262.46		
No. 1351	103.67		
			5,342,965.64
NEW ORLEANS.			
Warrant No. 1726	184,499.49		
No. 1429	575,000.00		
No. 1430	250,000.00		
No. 2150	240,000.00		
No. 828	230,000.00		
No. 1353	200,000.00		
No. 2000	220,000.00		
No. 1185	220,000.00		
No. 1184	230,000.00		
No. 2042	460,000.00		
			2,809,499.49
SAN FRANCISCO.			
Warrant No. 1999	150,000.00		
			150,000.00
1887.			
June 30. Balance on hand:			
Philadelphia	*95,286.27		
San Francisco	*41,831.99		
New Orleans	*13,527.69		
			150,645.95
Total			8,508,464.99
* These balances have been covered into the Treasury:			
Philadelphia, C. D. No. 6870	\$75,304.09		
C. D. No. 6871	19,268.19		
C. D. No. 6934	360.50		
C. D. No. 6955	353.49		
			\$95,286.27
San Francisco, C. D. No. 40513	38,022.17		
C. D. No. 40514	3,809.82		
			41,831.99
New Orleans, C. D. No. 39913			13,527.69
Total			150,645.95

XIV.—EXPENDITURES FROM SILVER-PROFIT FUND ON ACCOUNT OF TRANSPORTATION OF SILVER COIN DURING FISCAL YEAR ENDED JUNE 30, 1887, BY MINTS.

Mint and quarter.	TRANSPORTATION OF—		Bags, boxes, labor, and incident- als.	Total.
	Standard silver dol- lars.	Subsidiary silver.		
Philadelphia Mint:				
Third quarter 1886.....	\$2, 033. 42	\$171. 42	\$234. 45	\$2, 439. 29
Fourth quarter 1886.....	2, 757. 76	866. 77	440. 73	4, 065. 26
First quarter 1887.....	7, 741. 70	379. 48	152. 04	8, 273. 22
Second quarter 1887.....	3, 652. 80	429. 70	244. 99	4, 327. 49
Total.....	16, 185. 68	1, 847. 37	1, 072. 21	19, 105. 26
San Francisco Mint:				
Third quarter 1886.....	4, 252. 55			4, 252. 55
Fourth quarter 1886.....			210. 77	210. 77
First quarter 1887.....				
Second quarter 1887.....	5. 00			5. 00
Total.....	4, 257. 55		210. 77	4, 468. 32
New Orleans Mint:				
Third quarter 1886.....	1, 242. 54		60. 00	1, 302. 54
Fourth quarter 1886.....	5, 491. 97		409. 69	5, 901. 66
First quarter 1887.....	2, 935. 60		264. 76	3, 200. 36
Second quarter 1887.....	845. 19		248. 00	1, 093. 19
Total.....	10, 515. 30		982. 45	11, 497. 75
Less amount overpaid in 1886 and disallowed.....	12. 30			12. 30
Net total.....	10, 503. 00			11, 485. 45
Total by items.....	30, 946. 23	1, 847. 37	2, 265. 43	35, 059. 03

XV.—AMOUNT EXPENDED FOR DISTRIBUTION OF MINOR COINS FROM JULY 1, 1878, TO JUNE 30, 1887.

Fiscal years.	Amount expended.
1879 .....	\$1, 299. 97
1880 .....	12, 592. 83
1881 .....	23, 763. 46
1882 .....	24, 565. 84
1883 .....	28, 512. 54
1884 .....	29, 152. 32
1885 .....	12, 251. 98
1886 .....	847. 17
1887 .....	15, 914. 55
Total .....	148, 900. 66

XVI.—WASTAGE AND LOSS ON SALE OF SWEEPS, 1887.

Losses.	Phil- adelphia mint.	San Francisco mint.	Carson mint.	New Or- leans mint.	New York assay office.	Total.
Melter and refiner's gold wastage .....						
Coiner's gold wastage .....						
Melter and refiner's silver wastage .....		\$101. 45		\$12, 035. 84		\$12, 137. 29
Coiner's silver wastage .....		127. 98		1, 207. 99		1, 335. 97
Loss on sale of sweeps ...	\$5, 417. 46	2, 028. 35		3, 478. 37	\$5, 363. 12	16, 287. 30
Total .....	5, 417. 46	2, 257. 78		16, 722. 20	5, 363. 12	29, 760. 56
PAID AS FOLLOWS:						
From contingent appro- priation .....	786. 42					786. 42
From parting and refining appropriation .....	514. 73			22. 64		537. 37
From surplus bullion .....		2, 257. 78		520. 99	5, 363. 12	8, 141. 89
From silver-profit fund ...	4, 116. 31			16, 178. 57		20, 294. 88
Total .....	5, 417. 46	2, 257. 78		16, 722. 20	5, 363. 12	29, 760. 56

## REPORT ON THE FINANCES.

XVII.—STATEMENT SHOWING THE ASSETS AND LIABILITIES OF  
ASSETS.

Institutions.	GOLD BULLION.		SILVER BULLION.	
	Standard weight.	Value.	Standard weight.	Value (cost).
COINAGE MINTS.				
Philadelphia .....	1, 286, 515. 093	\$23, 935, 164. 35	4, 388, 641. 88	\$4, 460, 276. 35
San Francisco .....	94, 405. 183	1, 756, 375. 50	817, 092. 74	859, 170. 18
New Orleans .....	31, 431. 680	584, 775. 40	1, 558, 213. 68	1, 367, 986. 85
Carson .....	5, 638. 844	104, 908. 74	44, 643. 38	40, 627. 66
ASSAY OFFICES.				
New York .....	3, 175, 217. 401	59, 073, 811. 75	3, 326, 462. 03	3, 726, 612. 35
Denver .....				
Helena .....	1, 628. 421	30, 296. 22	305. 17	265. 51
Boisé .....	1, 385. 368	25, 774. 30	774. 80	674. 08
Charlotte .....				
Saint-Louis .....	62. 576	1, 164. 17	42. 90	37. 33
Total .....	4, 596, 284. 566	85, 512, 270. 43	10, 138, 176. 58	10, 455, 650. 31

## LIABILITIES.

Institutions.	Bullion fund.	Undeposited earnings.
COINAGE MINTS.		
Philadelphia .....	\$68, 552, 812. 87	
San Francisco .....	25, 146, 175. 43	\$26, 301. 32
New Orleans .....	10, 455, 925. 07	
Carson .....	226, 000. 00	1, 235. 46
ASSAY OFFICES.		
New York .....	67, 509, 513. 12	19, 085. 59
Denver .....	113, 933. 38	
Helena .....	82, 682. 51	74. 89
Boisé .....	131, 605. 40	68. 75
Charlotte .....	22, 840. 06	
Saint Louis .....	20, 514. 88	13. 48
Total .....	172, 262, 002. 72	46, 779. 49

UNITED STATES MINTS AND ASSAY OFFICES, JUNE 30, 1887.

## ASSETS.

Gold coin.	Silver coin.	Minor coin.	Minor-coinage metal.	Old deficiencies brought forward.	Total.
\$3,675,083.00	\$36,579,932.89	\$101,868.60	\$14,899.19	.....	\$68,767,224.38
3,343,255.00	18,843,975.38	.....	.....	*\$413,557.96	25,216,334.02
5,020.00	8,511,744.30	.....	.....	.....	10,469,526.55
71,007.00	10,692.06	.....	.....	.....	227,235.46
4,664,229.92	65,338.44	.....	.....	.....	67,529,992.46
113,933.00	.38	.....	.....	.....	113,933.38
52,195.00	.67	.....	.....	.....	82,757.40
105,225.00	.77	.....	.....	.....	131,674.15
22,840.00	.06	.....	.....	.....	22,840.06
19,326.00	.86	.....	.....	.....	20,528.36
12,072,113.92	64,011,685.81	101,868.60	14,899.19	413,557.96	172,582,046.22

## LIABILITIES.

Seignorage on silver.	Unpaid depositors.	Minor-coin profits.	Minor-coin metal fund.	Unpaid cent depositors.	Total.
\$95,286.27	\$2,357.45	\$66,697.79	\$50,000.00	\$70.00	\$68,767,224.38
41,831.99	2,025.28	.....	.....	.....	25,216,334.02
13,527.69	73.79	.....	.....	.....	10,469,526.55
.....	.....	.....	.....	.....	227,235.46
.....	1,393.75	.....	.....	.....	67,529,992.46
.....	.....	.....	.....	.....	113,933.38
.....	.....	.....	.....	.....	82,757.40
.....	.....	.....	.....	.....	131,674.15
.....	.....	.....	.....	.....	22,840.06
.....	.....	.....	.....	.....	20,528.36
150,645.95	5,850.27	66,697.79	50,000.00	70.00	172,582,046.22

\* Incurred prior to the organization of the Bureau of the Mint.

XVIII.—STATEMENT SHOWING THE NUMBER OF STANDARD OUNCES AND COST OF THE SILVER BULLION DELIVERED ON PURCHASES AT THE COINAGE MINTS, AND THE NUMBER OF SILVER DOLLARS COINED, EACH MONTH FROM JULY 1, 1886, TO JULY 1, 1887.

Date.	Standard ounces.	Cost.	Coinage.
1886.			
July .....	2,760,061.42	\$2,413,189.22	\$2,200,000
August .....	2,422,712.15	2,021,264.03	2,700,000
September .....	2,780,854.25	2,367,733.84	2,810,100
October .....	2,511,310.00	2,205,622.49	3,000,000
November .....	2,656,566.06	2,414,575.29	2,700,000
December .....	2,838,230.22	2,569,982.53	2,550,261
1887.			
January .....	2,926,004.88	2,684,552.54	2,920,000
February .....	2,115,563.27	1,951,923.68	2,950,000
March .....	2,351,293.50	2,125,722.11	3,020,380
April .....	2,194,097.05	1,899,783.71	3,000,000
May .....	1,618,630.22	1,386,739.63	2,900,000
June .....	2,258,019.25	1,947,531.39	2,516,090
Total .....	29,433,342.27	25,988,620.46	33,266,831
Purchased and coined from March 1, 1878, to July 1, 1886 .....	202,565,271.77	203,386,480.45	233,721,449
Purchased and coined from March 1, 1878, to July 1, 1887 .....	231,998,614.05	229,375,100.91	266,988,280
Monthly average July 1, 1886, to July 1, 1887 .....	2,452,778.52	2,165,718.37	2,772,236
Monthly average for 112 months .....	2,071,416.20	2,047,991.97	2,383,824



XIX.—STATEMENT OF SILVER BULLION PURCHASES FROM JULY 1, 1886,  
TO JULY 1, 1887.

Months.	PHILADELPHIA.		NEW ORLEANS.	
	Standard ounces.	Cost.	Standard ounces.	Cost.
1886.				
July .....	2, 283, 130. 06	\$1, 996, 226. 83	395, 344. 78	\$345, 362. 99
August .....	1, 593, 628. 80	1, 330, 682. 76	822, 977. 65	685, 635. 66
September .....	1, 676, 086. 66	1, 427, 375. 85	1, 028, 438. 97	874, 980. 69
October .....	1, 486, 247. 00	1, 306, 003. 18	946, 692. 66	830, 516. 67
November .....	1, 444, 093. 35	1, 312, 931. 36	1, 126, 707. 93	1, 022, 940. 94
December .....	1, 981, 502. 95	1, 794, 889. 13	695, 456. 47	629, 232. 42
1887.				
January .....	1, 794, 059. 83	1, 646, 111. 43	1, 022, 642. 74	937, 661. 11
February .....	1, 143, 991. 34	1, 055, 892. 23	966, 811. 22	891, 661. 84
March .....	1, 521, 788. 41	1, 377, 099. 58	823, 287. 56	742, 923. 72
April .....	1, 304, 189. 74	1, 129, 956. 61	884, 548. 23	765, 161. 81
May .....	1, 084, 822. 14	929, 606. 16	528, 079. 38	452, 147. 79
June .....	1, 437, 543. 78	1, 239, 468. 59	815, 102. 34	703, 283. 40
Total .....	18, 751, 084. 06	16, 546, 243. 71	10, 056, 089. 92	8, 881, 509. 04

Months.	SAN FRANCISCO.		CARSON.		TOTAL.	
	Standard ounces.	Cost.	Standard ounces.	Cost.	Standard ounces.	Cost.
1886.						
July .....	81, 586. 58	\$71, 599. 40	.....	.....	2, 760, 061. 42	\$2, 413, 189. 22
August .....	6, 105. 70	4, 945. 61	.....	.....	2, 422, 712. 15	2, 021, 264. 03
September .....	76, 328. 62	65, 377. 30	.....	.....	2, 780, 854. 25	2, 367, 733. 84
October .....	78, 370. 34	69, 102. 64	.....	.....	2, 511, 310. 00	2, 205, 622. 49
November .....	83, 980. 48	77, 082. 31	1, 784. 30	\$1, 620. 68	2, 656, 566. 06	2, 414, 575. 29
December .....	137, 268. 00	124, 015. 66	24, 002. 81	21, 845. 32	2, 838, 230. 23	2, 569, 982. 53
1887.						
January .....	92, 807. 32	85, 787. 69	16, 494. 99	14, 992. 31	2, 926, 004. 88	2, 684, 552. 54
February .....	3, 714. 38	3, 417. 23	1, 046. 32	952. 38	2, 115, 563. 26	1, 951, 923. 68
March .....	6, 011. 57	5, 511. 47	205. 96	187. 34	2, 351, 293. 50	2, 125, 722. 11
April .....	5, 096. 51	4, 433. 96	262. 58	231. 33	2, 194, 097. 05	1, 899, 783. 71
May .....	5, 540. 61	4, 820. 33	188. 00	165. 35	1, 618, 630. 22	1, 386, 739. 63
June .....	4, 714. 81	4, 146. 45	658. 32	632. 95	2, 258, 019. 25	1, 947, 531. 39
Total .....	581, 524. 92	520, 240. 05	44, 643. 37	40, 627. 66	29, 433, 342. 27	25, 988, 620. 46

**XX.—STATEMENT OF BULLION EMPLOYED IN THE COINAGE OF  
RECAPITULATION BY MONTHS**

Months.	MANUFACTURED.	
	Standard ounces.	Cost.
<b>1886.</b>		
July.....	1,890,625.00	\$1,684,342.00
August.....	2,320,312.50	2,015,095.95
September.....	2,414,929.69	2,079,770.66
October.....	2,578,125.00	2,245,704.87
November.....	2,320,312.50	2,055,356.87
December.....	2,191,630.55	1,955,137.63
<b>1887.</b>		
January.....	2,509,375.00	2,259,689.66
February.....	2,535,156.25	2,298,211.35
March.....	2,595,639.06	2,351,085.70
April.....	2,578,125.00	2,303,423.65
May.....	2,492,187.50	2,201,881.00
June.....	2,162,264.84	1,893,570.05
<b>Total.....</b>	<b>28,588,682.89</b>	<b>25,343,272.39</b>

**RECAPITULATION**

Mints.	MANUFACTURED.	
	Standard ounces.	Cost.
Philadelphia.....	18,296,807.89	\$16,204,087.63
New Orleans.....	9,633,593.75	8,543,808.29
San Francisco.....	658,281.25	595,376.47
<b>Total.....</b>	<b>28,588,682.89</b>	<b>25,343,272.39</b>

## SILVER DOLLARS AND THE WASTAGE AND LOSS ON SALE OF SWEEPS.

FROM JULY 1, 1886, TO JULY 1, 1887.

WASTAGE AND SOLD IN SWEEPS.		TOTAL CONSUMPTION.		Number of standard silver dollars coined.	Seignorage.
Standard ounces.	Cost.	Standard ounces.	Cost.		
		1,890,625.00	\$1,684,342.00	2,200,000	\$515,658.00
4,436.25	\$3,857.66	2,324,748.75	2,018,956.61	2,700,000	684,901.05
4,004.25	4,004.25	2,418,933.94	2,083,774.91	2,810,100	730,329.34
		2,578,125.00	2,245,704.87	3,000,000	754,295.13
1,776.58	1,541.30	2,322,089.08	2,056,898.17	2,700,000	644,643.13
		2,191,630.55	1,955,137.63	2,550,261	595,123.37
		2,509,375.00	2,259,689.66	2,920,000	660,310.34
6,350.31	5,766.05	2,541,506.56	2,303,977.40	2,950,000	651,788.65
2,986.08	2,688.82	2,598,625.14	2,353,774.52	3,020,380	669,294.30
2,059.13	1,864.56	2,580,184.13	2,305,288.21	3,000,000	696,576.35
1,777.25	1,587.95	2,493,964.75	2,203,468.95	2,900,000	698,119.00
27,496.52	24,157.53	2,189,761.36	1,917,727.58	2,516,090	622,519.95
50,886.37	45,468.12	28,639,560.26	25,388,740.51	33,266,831	7,923,558.61

## BY MINTS.

WASTAGE AND SOLD IN SWEEPS.		TOTAL CONSUMPTION.		Number of standard silver dollars coined.	Seignorage.
Standard ounces.	Cost.	Standard ounces.	Cost.		
14,785.93	\$13,613.01	18,311,503.82	\$16,217,700.64	21,290,831	\$5,086,743.37
35,848.03	31,625.68	9,669,441.78	8,575,433.97	11,210,000	2,666,191.71
252.41	229.43	658,533.66	595,605.90	766,000	170,623.53
50,886.37	45,468.12	28,639,560.26	25,388,740.51	33,266,831	7,923,558.61

XXI.—STATEMENT OF BULLION EMPLOYED IN THE COINAGE OF SILVER DOLLARS  
MINT AT PHILADELPHIA.

Month.	MANUFACTURED.	
	Standard ounces.	Cost.
1886.		
July.....	1,375,000.00	\$1,221,248.46
August.....	1,546,875.00	1,342,535.11
September.....	1,632,898.44	1,406,846.97
October.....	1,546,875.00	1,342,015.72
November.....	1,203,125.00	1,061,618.29
December.....	1,203,349.30	1,073,390.11
1887.		
January.....	1,735,937.50	1,563,125.17
February.....	1,675,781.25	1,517,903.34
March.....	1,736,264.06	1,572,198.29
April.....	1,718,750.00	1,535,678.93
May.....	1,632,812.50	1,440,918.01
June.....	1,289,139.84	1,126,609.23
Total.....	18,296,807.89	16,204,087.63

## MINT AT NEW ORLEANS.

1886.		
July.....	515,025.00	\$463,093.54
August.....	773,437.50	672,563.84
September.....	782,081.25	672,923.69
October.....	773,437.50	670,901.91
November.....	859,375.00	760,275.50
December.....	859,375.00	765,119.74
1887.		
January.....	773,437.50	696,504.49
February.....	859,375.00	780,308.01
March.....	859,375.00	778,887.41
April.....	859,375.00	767,744.72
May.....	859,375.00	760,962.99
June.....	859,375.00	754,462.45
Total.....	9,633,593.75	8,543,808.29

## MINT AT SAN FRANCISCO.

1886.		
July to September.....		
October.....	257,812.50	\$232,787.24
November.....	257,812.50	233,463.08
December.....	128,906.25	116,627.78
1887.		
January to May.....		
June.....	13,750.00	12,498.37
Total.....	658,281.25	595,376.47

AND THE WASTAGE AND LOSS ON SALE OF SWEEPS FROM JULY 1, 1886, TO JULY 1, 1887.

## MINT AT PHILADELPHIA.

WASTAGE AND SOLD IN SWEEPS.		TOTAL CONSUMPTION.		Dollars coined.	Seignorage.
Standard ounces.	Cost.	Standard ounces.	Cost.		
.....	.....	1,375,000.00	\$1,221,248.46	1,600,000	\$378,751.54
.....	.....	1,546,875.00	1,342,535.11	1,800,000	457,464.89
4,004.25	\$4,004.25	1,636,902.69	1,410,851.22	1,900,100	493,253.03
.....	.....	1,546,875.00	1,342,015.72	1,800,000	457,984.28
1,776.58	1,541.30	1,204,901.58	1,063,159.59	1,400,000	338,381.71
.....	.....	1,203,349.30	1,073,390.11	1,400,261	326,870.89
.....	.....	1,735,937.50	1,563,125.17	2,020,000	456,874.83
.....	.....	1,675,781.25	1,517,903.34	1,950,000	432,096.66
2,086.08	2,688.82	1,739,250.14	1,574,887.11	2,020,380	448,181.71
2,059.13	1,864.56	1,720,809.13	1,537,543.49	2,000,000	464,321.07
1,777.25	1,587.95	1,634,589.75	1,442,505.96	1,900,000	459,081.99
2,182.64	1,926.13	1,291,322.48	1,128,535.36	1,500,090	373,480.77
14,785.93	13,613.01	18,311,593.82	16,217,700.64	21,290,831	5,086,743.37

## MINT AT NEW ORLEANS.

.....	.....	515,625.00	\$463,093.54	600,000	\$136,906.46
4,436.25	\$3,857.66	777,873.75	676,421.50	900,000	227,436.16
.....	.....	782,031.25	672,923.69	910,000	237,076.31
.....	.....	773,437.50	670,901.91	900,000	229,098.09
.....	.....	859,375.00	760,275.50	1,000,000	239,724.50
.....	.....	859,375.00	765,119.74	1,000,000	234,880.26
.....	.....	773,437.50	696,564.49	900,000	203,435.51
6,350.31	5,766.03	865,725.31	786,074.06	1,000,000	219,691.99
.....	.....	859,375.00	778,837.41	1,000,000	221,112.59
.....	.....	859,375.00	767,744.72	1,000,000	232,255.28
.....	.....	859,375.00	760,962.99	1,000,000	239,037.01
25,061.47	22,001.97	884,436.47	776,464.42	1,000,000	245,537.55
35,848.03	31,625.68	9,669,441.78	8,575,433.97	11,210,000	2,666,191.71

## MINT AT SAN FRANCISCO.

.....	.....	257,812.50	\$232,787.24	300,000	\$67,212.76
.....	.....	257,812.50	233,463.08	300,000	66,536.92
.....	.....	128,906.25	116,627.78	150,000	33,372.22
.....	.....	.....	.....	.....	.....
252.41	\$229.43	14,002.41	12,727.80	16,000	3,501.63
252.41	229.43	658,533.66	595,605.90	766,000	170,623.53

XXII.—STATEMENT SHOWING BY MONTHS THE COST OF SILVER BULLION PURCHASED, DELIVERED, AND COINED INTO SILVER DOLLARS AND THE NOMINAL VALUE OF THE COINAGE, FOR THE FISCAL YEAR ENDED JUNE 30, 1887.

Month.	SILVER PURCHASED.		COINAGE.	
	Cost of amount purchased.	Cost of amount delivered on month's purchases.	Cost of amount coined.	Nominal value of coinage.
1886.				
July .....	\$1,490,686.20	\$1,496,990.31	\$1,684,342.00	\$2,200,000
August .....	2,115,107.15	2,117,578.41	2,015,098.95	2,700,000
September .....	2,048,666.90	2,054,888.93	2,079,770.66	2,810,100
October .....	2,333,457.04	2,339,766.55	2,245,704.87	3,600,000
November .....	2,447,678.45	2,458,857.26	2,055,356.87	2,700,000
December .....	2,684,651.13	2,682,319.60	1,955,137.63	2,550,261
1887.				
January .....	2,135,034.14	2,151,317.54	2,259,689.66	2,920,000
February .....	2,061,510.45	2,074,113.46	2,238,211.35	2,950,000
March .....	1,969,555.09	1,982,133.65	2,351,085.70	3,020,380
April .....	1,852,437.00	1,862,942.00	2,303,423.65	3,000,000
May .....	1,713,851.70	1,717,687.80	2,201,881.00	2,900,000
June .....	1,710,979.94	1,710,746.72	1,893,570.05	2,516,090
Total fiscal year...	24,563,615.17	24,649,342.23	25,343,272.39	33,266,831

XXIII.—STATEMENT OF MONTHLY PURCHASE AND COINAGE OF \$2,000,000  
WORTH OF BULLION FOR SILVER DOLLARS.

Month.	Average price per ounce fine for previous month.	Number of fine ounces required to procure \$2,000,000 worth of bullion.	Coining value in silver dollars.
1886.			
July .....	\$1. 00046	1, 999, 080	\$2, 584, 669
August .....	. 96395	2, 074, 796	2, 682, 565
September .....	. 92333	2, 166, 073	2, 800, 579
October .....	. 95691	2, 090, 061	2, 702, 302
November .....	. 98333	2, 033, 905	2, 629, 695
December .....	1. 01424	1, 971, 919	2, 549, 552
1887.			
January .....	1. 00384	1, 992, 349	2, 575, 966
February .....	1. 02560	1, 950, 078	2, 531, 313
March .....	1. 02669	1, 948, 007	2, 518, 635
April .....	. 99706	2, 058, 973	2, 662, 106
May .....	. 96499	2, 072, 754	2, 679, 924
June .....	. 95658	2, 090, 781	2, 703, 232
Total .....		24, 448, 776	31, 610, 538

  

Month.	Number of silver dollars coined.	Bullion consumed, standard ounces.	Cost of bullion consumed.
1886.			
July .....	2, 200, 000	1, 890, 625. 00	\$1, 684, 342. 00
August .....	2, 700, 000	2, 320, 312. 50	2, 015, 098. 95
September .....	2, 810, 100	2, 414, 929. 69	2, 079, 770. 66
October .....	3, 000, 000	2, 578, 125. 00	2, 245, 704. 87
November .....	2, 700, 000	2, 320, 312. 50	2, 055, 356. 87
December .....	2, 550, 261	2, 191, 630. 55	1, 955, 137. 63
1887.			
January .....	2, 920, 000	2, 509, 375. 00	2, 259, 689. 66
February .....	2, 950, 000	2, 535, 156. 25	2, 298, 211. 35
March .....	3, 020, 380	2, 595, 639. 06	2, 351, 085. 70
April .....	3, 000, 000	2, 578, 125. 00	2, 303, 423. 65
May .....	2, 900, 000	2, 492, 187. 50	2, 201, 881. 00
June .....	2, 516, 090	2, 162, 264. 84	1, 893, 570. 05
Total .....	33, 266, 831	28, 588, 682. 89	25, 343, 272. 39

XXIV.—AVERAGE MONTHLY PRICE OF SILVER BULLION, 925 THOUSANDTHS FINE, IN LONDON DURING THE CALENDAR YEAR 1886, COMPILED FROM DAILY TELEGRAPHIC CABLE DISPATCHES TO THE BUREAU OF THE MINT, AND EQUIVALENT PER OUNCE 1,000 FINE IN UNITED STATES MONEY.

Month.	Highest.	Lowest.	Average.	Equivalent in United States money.
1886.	<i>Pence.</i>	<i>Pence.</i>	<i>Pence.</i>	<i>Per ounce fine.</i>
January .....	47	46 $\frac{7}{8}$	46.733	\$1.02444
February .....	46 $\frac{7}{8}$	46 $\frac{1}{2}$	46.685	1.02339
March .....	46 $\frac{7}{8}$	46 $\frac{1}{8}$	46.766	1.02517
April .....	46 $\frac{1}{8}$	46	46.386	1.01683
May .....	46	44 $\frac{3}{4}$	45.425	0.99577
June .....	45 $\frac{1}{2}$	44 $\frac{1}{8}$	44.835	0.98283
July .....	44 $\frac{1}{2}$	42	43.873	0.96175
August .....	42 $\frac{1}{2}$	42	42.310	0.92748
September .....	45	42 $\frac{1}{2}$	43.817	0.96052
October .....	45 $\frac{1}{2}$	44 $\frac{1}{2}$	45.084	0.98829
November .....	46 $\frac{1}{8}$	45 $\frac{1}{2}$	46.486	1.01903
December .....	46 $\frac{1}{2}$	45 $\frac{1}{2}$	46.093	1.01041
Average for the year .....	45.833	44.776	45.3744	0.994659



XXV.—STATEMENT SHOWING THE HIGHEST, LOWEST, AND AVERAGE VALUE OF THE UNITED STATES SILVER DOLLAR, MEASURED BY THE GOLD STANDARD, AND THE QUANTITY OF FINE SILVER PURCHASABLE WITH A UNITED STATES DOLLAR AT THE AVERAGE LONDON PRICE OF SILVER EACH YEAR SINCE 1873.

Calendar years.	Gold value of a silver dollar.			Grains of pure silver at average price purchasable with a United States dollar.*
	Lowest.	Highest.	Average.	
1873.....	\$0.981	\$1.016	\$1.004	369.77
1874.....	.970	1.008	.988	375.76
1875.....	.941	.977	.964	385.11
1876.....	.792	.991	.894	415.27
1877.....	.902	.987	.929	399.62
1878.....	.839	.936	.891	416.66
1879.....	.828	.911	.868	427.70
1880.....	.875	.896	.885	419.49
1881.....	.862	.896	.880	421.87
1882.....	.847	.887	.878	422.83
1883.....	.847	.868	.858	432.69
1884.....	.839	.871	.861	431.18
1885.....	.794	.847	.823	451.09
1886.....	.712	.797	.755	492.06

\* 371.25 grains of pure silver in a silver dollar.

XXVI.—HIGHEST, LOWEST, AND AVERAGE PRICE OF BAR SILVER IN LONDON,  
PER OUNCE BRITISH STANDARD (.925), SINCE 1833, AND THE EQUIVALENT  
IN UNITED STATES GOLD COIN OF AN OUNCE 1,000 FINE, TAKEN AT THE  
AVERAGE PRICE.

Calendar year.	Lowest quotation.	Highest quotation.	Average quotation.	Value of a fine ounce at average quotation.	Calendar year.	Lowest quotation.	Highest quotation.	Average quotation.	Value of a fine ounce at average quotation.
	d.	d.	d.	Dollars.		d.	d.	d.	Dollars.
1833.....	58½	59½	59¼	1.29, 7	1860.....	61½	62½	61½	1.35, 2
1834.....	59½	60½	59½	1.31, 3	1861.....	60½	61½	60½	1.33, 3
1835.....	59½	60	59½	1.30, 8	1862.....	61	62½	61½	1.34, 6
1836.....	59½	60½	60	1.31, 5	1863.....	61	61½	61½	1.34, 5
1837.....	59	60½	59½	1.30, 5	1864.....	60½	62½	61½	1.34, 5
1838.....	59½	60½	59½	1.30, 4	1865.....	60½	61½	61½	1.33, 8
1839.....	60	60½	60½	1.32, 3	1866.....	60½	62½	61½	1.33, 9
1840.....	60½	60½	60½	1.32, 3	1867.....	60½	61½	60½	1.32, 8
1841.....	59½	60½	60½	1.31, 6	1868.....	60½	61½	60½	1.32, 6
1842.....	59½	60	59½	1.30, 3	1869.....	60	61	60½	1.32, 5
1843.....	59	59½	59½	1.29, 7	1870.....	60½	60½	60½	1.32, 8
1844.....	59½	59½	59½	1.30, 4	1871.....	60½	61	60½	1.32, 6
1845.....	58½	59½	59½	1.29, 8	1872.....	59½	61½	60½	1.32, 2
1846.....	59	60½	59½	1.30	1873.....	57½	59½	59½	1.29, 8
1847.....	58½	60½	59½	1.30, 8	1874.....	57½	59½	58½	1.27, 8
1848.....	58½	60	59½	1.30, 4	1875.....	55½	57½	56½	1.24, 6
1849.....	59½	60	59½	1.30, 9	1876.....	46½	58½	52½	1.15, 6
1850.....	59½	61½	61½	1.31, 6	1877.....	53½	58½	54½	1.20, 1
1851.....	60	61½	61	1.33, 7	1878.....	49½	55½	52½	1.15, 2
1852.....	59½	61½	60½	1.32, 6	1879.....	48½	53½	51½	1.12, 3
1853.....	60½	61½	61½	1.34, 8	1880.....	51½	52½	52½	1.14, 5
1854.....	60½	61½	61½	1.34, 8	1881.....	50½	52½	51½	1.13, 8
1855.....	60	61½	61½	1.34, 4	1882.....	50	52½	51½	1.13, 6
1856.....	60½	62½	61½	1.34, 4	1883.....	50—	51½	50½	1.11
1857.....	61	62½	61½	1.35, 3	1884.....	49½	51½	50½	1.11, 3
1858.....	60½	61½	61½	1.34, 4	1885.....	46½	50	48½	1.06, 48
1859.....	61½	62½	62½	1.36	1886.....	42	47	45½	0.9946

## XXVII.

TREASURY DEPARTMENT, BUREAU OF THE MINT,  
*Washington, D. C., September 16, 1887.*

SIR: Tables are herewith presented, taken from the report of the Annual Assay Commission, and from assays made monthly in the laboratory under my charge, showing the number of coins and the fineness of each assayed of the coinage of the calendar year 1886.

Tables are also presented, showing the percentage of coins of the various degrees of fineness to the whole number assayed. The coins tested both by the Annual Assay Commission and by myself have been far within the legal limit of deviation for fineness.

Very respectfully,

W. P. LAWVER,  
*Assayer, Mint Bureau.*

Dr. JAMES P. KIMBALL,  
*Director of the Mint.*

## REPORT ON THE FINANCES.

## XXVII a, b.—COINS OF THE SEVERAL DEGREES OF FINENESS IN PER

## A.—GOLD.

Fineness.	Philadelphia.	
	Annual.	Monthly.
900.5.....		
900.4.....		
900.3.....	7.69	
900.2.....	30.76	14.28
900.1.....	30.76	9.52
900 (standard).....	30.76	42.85
899.9.....		33.33
899.8.....		
899.7.....		
899.6.....		
899.5.....		
899.4.....		
899.3.....		
899.2.....		
Average fineness.....	900.115	900.005
Mass melts.....	900	

## B.—SILVER.

Fineness.	STANDARD SILVER DOLLARS.					
	Philadelphia.		San Francisco.		New Orleans.	
	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.
902.2.....					4.16	.68
901.6.....					8.33	.68
901.5.....						
901.4.....	4.16					.68
901.3.....		1.44				1.36
901.2.....						.68
901.1.....						1.36
901.0.....	8.33					.68
900.9.....		.72		5.26		1.36
900.8.....	4.16	.72			4.16	
900.7.....		2.17				
900.6.....		6.52		5.26		6.12
900.5.....		11.59		15.78		6.12
900.4.....		5.72		21.05		4.76
900.3.....	4.16	7.24		5.26	4.16	8.16
900.2.....		9.41		5.26		6.80
900.1.....	8.33	12.31		5.26	12.50	10.20
900 (standard).....		6.52				8.84
899.9.....	8.33	10.14			37.50	14.28
899.8.....		7.24		15.78		6.80
899.7.....	29.16	7.24	40.00		16.66	8.16
899.6.....		3.62		5.26		3.40
899.5.....		1.44				.68
899.4.....	16.66	1.44	20.00		8.33	4.76
899.3.....		1.44		5.26		1.36
899.2.....	12.50	2.17				1.36
899.1.....				5.26		.68
899.0.....	4.16					1.36
898.9.....		.72				
898.8.....				5.26		.68
898.6.....					4.16	
898.4.....			20.00			
898.2.....			20.00			
898.0.....						
Average fineness.....	899.758	900.606	898.940	899.968	899.996	899.960
Mass melts.....	899.8		900		900	

## CENTAGES OF THE WHOLE NUMBER OF COINS ASSAYED.

## A.—GOLD.

San Francisco.		New Orleans.		Total.		Total.
Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.	
4.16				4.16		4.16
12.50				20.19		20.19
4.16	2.58			34.92	16.86	51.78
16.66	6.45			47.42	15.97	63.39
12.50	13.54			43.26	56.39	99.65
33.33	23.22			33.33	56.55	89.88
12.50	20.00			12.50	20.00	32.50
	12.25				12.25	12.25
4.16	10.32			4.16	10.32	14.48
	6.45				6.45	6.45
	2.58				2.58	2.58
	1.29				1.29	1.29
	1.29				1.29	1.29
900.008	899.803					
899.9						

## B.—SILVER.

DIMES.				TOTAL.				Total.	
Philadelphia.		San Francisco.		Standard silver dollars.		Dimes.			
Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.	Standard silver dollars.	Dimes.
				4.16	.68			4.84	
				8.33	.68			9.01	
				4.16	.68			4.84	
					2.80			2.80	
					.68			.68	
				8.33	1.36			9.69	
					5.98			5.98	
				8.32	.72			9.04	
					2.17			2.17	
					17.90			17.90	
					33.49			33.49	
	3.57				31.53		3.57	31.53	3.57
10.72				8.32	20.66		10.72	28.98	10.72
					21.47			21.47	
			14.44	20.83	27.77		14.44	48.60	14.44
	7.14				15.36		7.14	15.36	7.14
14.28			14.44	45.83	24.42		28.72	70.25	28.72
3.57			14.44		29.82		18.01	29.82	18.01
3.57			14.44	85.82	15.40		18.01	101.22	18.01
17.85			14.44		12.28		32.29	12.28	32.29
7.14					2.12		7.14	2.12	7.14
7.14				44.99	6.20		7.14	51.19	7.14
10.71					8.06		10.71	8.06	10.71
7.14				12.50	3.53		7.14	16.03	7.14
7.14					5.94		7.14	5.94	7.14
				4.16	1.36			5.52	
					.72			.72	
					5.94			5.94	
			14.44	4.16			14.44	4.16	14.44
				20.00				20.00	
				20.00				20.00	
	899,654		899,500						

XXVII c, d.--TABLE SHOWING THE NUMBER OF COINS AND FINENESS OF EACH FROM THE COINAGE OF THE CALENDAR YEAR 1886, ASSAYED AT THE ANNUAL ASSAY, AND MONTHLY AT THE BUREAU OF THE MINT.

## C.—GOLD.

Fineness.	PHILADELPHIA.		SAN FRANCISCO.		NEW ORLEANS.	
	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.
	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>
900.5.....			1			
900.4.....						
900.3.....	1		3			
900.2.....	4	3	1	4		
900.1.....	4	2	4	10		
900 (standard) .....	4	9	3	21		
899.9.....		7	8	36		
899.8.....			3	31		
899.7.....				19		
899.6.....			1	16		
899.5.....				10		
899.4.....				4		
899.3.....				2		
899.2.....				2		
Total pieces.....	13	21	24	155		
Average fineness.....	900.115	900.005	900.008	899.803		
Mass melts .....	900.		899.9			

XXVII c, d.—TABLE SHOWING THE NUMBER OF COINS AND THE FINE-  
NESS OF EACH FROM THE COINAGE OF THE CALENDAR YEAR 1886, AS-  
SAYED AT THE ANNUAL ASSAY, AND MONTHLY AT THE BUREAU OF THE  
MINT—Continued.

## D.—SILVER.

Fineness.	STANDARD SILVER DOLLARS.						DIMES.			
	Philadelphia.		San Francisco.		New Orleans.		Philadel- phia.		San Fran- cisco.	
	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.	Annual.	Monthly.
	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pieces.</i>	<i>Pcs.</i>	<i>Pieces.</i>	<i>Pcs.</i>	<i>Pieces.</i>
902.2					1	1				
901.6					2	1				
901.5										
901.4										
901.3	1					1				
901.2										
901.1		2								
901.0						2				
900.9	2					1				
900.8		1		1		2				
900.7	1	1			1					
900.6		3								
900.5		9		1		9				
900.4		16		3		9				
900.3		8		4		7		10		
900.2	1	10		1	1	12		30		
900.1		13		1		10				
900 (standard)	2	17		1	3	15		20		10
899.9		9				13		40		
899.8	2	14			9	21		10		10
899.7		10		3		10		10		10
899.6	7	10	2		4	12		50		10
899.5		5		1		5		20		10
899.4		2				1		20		
899.3	4	2	1		2	7		30		
899.2		2		1		2		20		
899.1	3	3				2		20		
899.0				1		1				
898.9	1					2				
898.8		1								
898.6				1		1				
893.4					1					10
898.2			1							
898.			1							
Total pieces	24	138	5	19	24	147		280		60
Average fine- ness	899.758	900.006	898.940	899.968	899.996	899.960		899.654		899.500
Mass melts	899.8		900		900					

## XXVIII.—COMPARISON OF THE BUSINESS OF THE MINTS AND

Mints and assay offices.	DEPOSITS.		COINAGE.	
			Gold.	
	1886.	1887. -	1886.	
			<i>Pieces.</i>	<i>Value.</i>
Philadelphia .....	\$23,800,679.85	\$28,933,319.36	1,059,314	\$6,997,380.00
San Francisco .....	20,011,690.38	25,045,494.20	3,991,500	27,080,000.00
Carson .....	13,930.78	181,346.40		
New Orleans .....	9,318,643.37	11,807,853.61		
Denver .....	1,171,902.72	1,593,291.66		
New York .....	22,559,482.11	61,839,162.05		
Boisé .....	122,461.63	448,499.62		
Helena .....	1,187,538.12	1,449,669.15		
Charlotte .....	207,240.36	224,226.35		
Saint Louis .....	129,991.69	112,948.94		
COINAGE—continued.				
Minor.				
	1886.		1887.	
	<i>Pieces.</i>	<i>Value.</i>	<i>Pieces.</i>	<i>Value.</i>
Philadelphia .....	1,706,051	\$17,377.65	50,166,509	\$943,650.65
San Francisco .....				
Carson .....				
New Orleans .....				
Denver .....				
New York .....				
Boisé .....				
Helena .....				
Charlotte .....				
Saint Louis .....				





XXVIII.—COMPARISON OF THE BUSINESS OF  
BARS MANUFACTURED.

Institutions.	GOLD.			
	Fine.		Mint.	
	1886.	1887.	1886.	1887.
Philadelphia .....	\$529, 617. 64	\$585, 272. 30		
San Francisco .....				
Carson .....		170. 79		
New Orleans .....		137. 65		
Denver .....				
New York .....	13, 938, 005. 58	28, 381, 363. 44	\$1, 141, 915. 77	\$16, 895, 509. 70
Boisé .....				
Helena .....				
Charlotte .....				
Saint Louis .....				

  

Institutions.	SILVER.			
	Fine.		Mint.	
	1886.	1887.	1886.	1887.
Philadelphia .....	\$17, 471. 58	\$34, 508. 07		
San Francisco .....	1, 345, 970. 72	684, 245. 07		
Carson .....		14, 043. 62		
New Orleans .....				
Denver .....				
New York .....	5, 205, 192. 73	5, 164, 480. 31	\$970, 208. 51	\$154, 295. 21
Boisé .....				
Helena .....				
Charlotte .....				
Saint Louis .....				

## THE MINTS AND ASSAY OFFICES, ETC.—Continued.

## BARS MANUFACTURED.

GOLD.							
Standard.		Unparted.		Sterling.			
1886.	1887.	1886.	1887.	1886.	1887.		
			\$1,438.76				
		\$4,296.06	3,069.13				
		1,154,702.23	1,571,868.34				
	\$4,279,993.46	107.59	69.08	\$740,556.13	\$4,388,493.89		
		120,812.58	437,542.51				
		1,074,310.05	1,313,429.35				
		206,032.82	222,857.34				
		122,052.76	107,797.92				
SILVER.							
						Total gold and silver.	
Standard.		Unparted.		Sterling.			
1886.	1887.	1886.	1887.	1886.	1887.	1886.	1887.
				\$9,353.48		\$555,842.70	\$619,780.37
			\$13.60			1,345,970.72	685,697.43
		\$810.55	8,564.93			5,106.61	25,848.47
							137.65
		17,200.49	21,423.33			1,171,902.72	1,593,291.67
\$21,483.34	\$35,093.17	519,997.20	210,469.22	4,511.58	\$757.74	22,541,978.43	59,510,465.22
		1,649.05	10,957.11			122,461.63	448,499.62
		113,228.07	136,239.80			1,187,538.12	1,449,669.15
		1,207.54	1,369.02			207,240.36	224,226.36
		7,938.93	5,151.05			129,991.69	112,948.97

## XXVIII.—COMPARISON OF THE BUSINESS OF THE MINTS AND ASSAY OFFICES, ETC.—Continued.

## BULLION OPERATIONS AND WASTAGE.

	GOLD BULLION OPERATED UPON BY MELTER AND REFINER.		SILVER BULLION OPERATED UPON BY MELTER AND REFINER.	
	1886.	1887.	1886.	1887.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Philadelphia .....	1,396,820	409,326	39,693,151	44,239,881
San Francisco .....	2,812,334	2,569,593	1,618,059	2,738,918
Carson .....		5,436		55,903
New Orleans .....	25,428	30,784	16,370,688	18,901,167
New York .....	929,770	2,904,738	5,920,653	4,828,925

  

	GOLD OPERATED UPON BY COINER.		SILVER OPERATED UPON BY COINER.	
	1886.	1887.	1886.	1887.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Philadelphia .....	1,118,730	13,574	39,005,873	42,924,485
San Francisco .....	2,848,812	2,618,431	65,709	1,358,630
Carson .....				
New Orleans .....			14,448,853	17,613,577

  

	GOLD WASTAGE OF MELTER AND REFINER.		SILVER WASTAGE OF MELTER AND REFINER.	
	1886.	1887.	1886.	1887.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Philadelphia .....	421			
San Francisco .....				111
Carson .....				
New Orleans .....	1		5,647	13,709
New York .....			318	

  

	GOLD WASTAGE OF COINER.		SILVER WASTAGE OF COINER.	
	1886.	1887.	1886.	1887.
	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>	<i>Standard ozs.</i>
Philadelphia .....	24		3,413	
San Francisco .....				140
Carson .....				
New Orleans .....			1,826	1,375

XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER DURING THE YEAR ENDED JUNE 30, 1887.

[Reported by Chief of Bureau of Statistics.]

IMPORTS.

Ports.	BULLION.						Total gold and silver bullion.
	Gold.			Silver.			
	Bars.	Other bullion.	Total.	Bars.	Other bullion.	Total.	
NEW YORK.							
July, 1886 .....	\$200	\$41, 474	\$41, 674	\$200	\$21, 850	\$22, 050	\$63, 724
August, 1886 .....	3, 176, 934	28, 592	3, 205, 526	.....	24, 065	24, 065	3, 229, 591
September, 1886 .....	1, 978, 874	21, 565	2, 000, 439	.....	17, 680	17, 680	2, 018, 119
October, 1886 .....	1, 895, 615	33, 552	1, 929, 167	.....	24, 200	24, 200	1, 953, 367
November, 1886 .....	4, 309, 121	206, 835	4, 515, 956	.....	29, 800	29, 800	4, 545, 756
December, 1886 .....	4, 583, 988	12, 506	4, 596, 494	268	22, 430	22, 698	4, 619, 192
January, 1887 .....	2, 050, 068	247, 709	2, 297, 777	.....	36, 322	36, 322	2, 334, 099
February, 1887 .....	7, 740	25, 544	33, 284	.....	36, 075	36, 075	69, 359
March, 1887 .....	13, 271	22, 126	35, 397	.....	36, 486	36, 486	71, 883
April, 1887 .....	27, 373	12, 700	40, 073	4, 080	31, 100	35, 180	75, 253
May, 1887 .....	11, 605	15, 911	27, 516	.....	45, 000	45, 000	72, 516
June, 1887 .....	3, 058	29, 173	32, 231	.....	52, 645	52, 645	84, 876
Total .....	18, 037, 847	697, 687	18, 755, 534	4, 548	377, 653	382, 201	19, 137, 735
SAN FRANCISCO.							
July, 1886 .....	.....	47, 981	47, 981	12, 190	151, 360	163, 550	211, 531
August, 1886 .....	1, 200	71, 703	72, 903	.....	161, 886	161, 886	234, 789
September, 1886 .....	.....	80, 245	89, 245	.....	111, 123	111, 123	200, 368
October, 1886 .....	.....	98, 455	98, 455	.....	184, 789	184, 789	283, 244
November, 1886 .....	.....	116, 749	116, 749	5, 300	122, 688	127, 988	244, 737
December, 1886 .....	.....	54, 969	54, 969	87, 278	157, 866	245, 144	300, 113
January, 1887 .....	.....	33, 464	33, 464	51, 000	191, 420	242, 420	275, 884
February, 1887 .....	.....	19, 235	19, 235	.....	223, 594	223, 594	242, 829
March, 1887 .....	.....	14, 117	14, 117	22, 200	210, 793	232, 993	247, 110
April, 1887 .....	.....	34, 572	34, 572	7, 000	142, 556	149, 556	184, 128
May, 1887 .....	.....	44, 889	44, 889	.....	247, 679	247, 679	292, 568
June, 1887 .....	.....	49, 104	49, 104	.....	204, 052	204, 052	253, 156
Total .....	1, 200	674, 483	675, 683	184, 968	2, 109, 806	2, 294, 774	2, 970, 457
ALL OTHER PORTS.							
July, 1886 .....	2, 077	5, 630	7, 707	179, 927	7, 409	187, 336	195, 043
August, 1886 .....	19, 063	6, 368	25, 431	141, 690	8, 533	150, 223	175, 654
September, 1886 .....	42, 407	5, 000	47, 407	194, 705	5, 812	200, 517	247, 924
October, 1886 .....	27, 729	8, 640	36, 369	124, 974	6, 056	131, 030	167, 399
November, 1886 .....	21, 501	.....	21, 501	196, 099	2, 694	198, 793	220, 294
December, 1886 .....	20, 638	17, 597	38, 235	185, 003	14, 475	199, 478	237, 763
January, 1887 .....	.....	38, 873	38, 873	.....	217, 148	217, 148	256, 021
February, 1887 .....	14, 646	2, 273	16, 919	189, 370	19, 789	209, 159	226, 078
March, 1887 .....	26, 960	8, 272	35, 232	166, 484	19, 869	186, 353	221, 585
April, 1887 .....	5, 864	10, 228	16, 092	212, 342	17, 400	229, 742	245, 834
May, 1887 .....	31, 835	7, 875	39, 710	189, 031	11, 948	200, 979	240, 689
June, 1887 .....	8, 191	7, 780	15, 971	132, 063	12, 901	144, 964	160, 935
Total .....	220, 961	118, 536	339, 497	1, 911, 688	344, 034	2, 255, 722	2, 595, 219
Total imports (bullion) .....	18, 280, 008	1, 490, 706	19, 770, 714	2, 101, 204	2, 831, 493	4, 932, 697	24, 703, 411

## XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## IMPORTS—Continued.

Ports.	Coin.						Total gold and silver coin.
	Gold.			Silver.			
	Ameri- can.	Foreign.	Total.	Ameri- can.	Foreign.	Total.	
NEW YORK.							
July, 1886.....	\$378,216	\$12,613	\$390,829	\$50,503	\$48,783	\$99,286	\$490,115
August, 1886.....	403,723	890,706	1,294,429	68,364	228,393	296,757	1,591,186
September, 1886..	110,048	2,449,104	2,559,152	47,201	37,848	85,049	2,644,201
October, 1886....	1,087,716	2,124,249	3,211,965	24,342	154,494	178,836	3,390,801
November, 1886..	584,297	3,199,720	3,784,017	32,996	245,007	278,003	4,062,020
December, 1886..	1,342,850	4,963,385	6,306,235	31,668	230,517	262,185	6,568,420
January, 1887....	109,836	797,872	907,708	29,941	105,317	135,258	1,042,966
February, 1887...	23,242	14,753	37,995	18,034	66,962	84,996	122,991
March, 1887.....	84,481	372,380	456,861	35,776	95,034	130,810	587,671
April, 1887.....	53,483	157,368	210,851	11,489	188,860	200,349	411,200
May, 1887.....	263,538	369,727	633,265	193,942	35,467	229,409	862,674
June, 1887.....	90,090	201,130	291,220	9,067	25,947	35,014	326,234
Total.....	4,531,520	15,553,007	20,084,527	553,323	1,462,629	2,015,952	22,100,479
SAN FRANCISCO.							
July, 1886.....	23,550	40,468	64,018	590	87,685	88,275	152,293
August, 1886.....	2,100	59,676	61,776	1,274	57,761	59,035	120,811
September, 1886..	56,203	114,837	171,040	1,042	168,325	169,367	340,407
October, 1886....	8,017	91,480	99,497	696	90,858	91,554	191,051
November, 1886..	4,395	738,431	742,826	50	49,468	49,518	792,344
December, 1886..	5,118	286,668	291,786	2,299	144,291	146,590	438,376
January, 1887....	80,534	10,936	91,470	152	23,204	23,356	114,826
February, 1887...	3,049	9,336	12,385	2,158	28,221	30,379	42,764
March, 1887.....	3,029	13,697	16,726	638	32,250	32,888	49,614
April, 1887.....	14,112	3,900	18,012	377,263	39,769	417,032	435,044
May, 1887.....	94,308	6,000	100,308	139,300	37,940	177,240	277,548
June, 1887.....	55,549	1,117	56,666	97,158	15,509	112,667	169,333
Total.....	349,964	1,376,546	1,726,510	622,620	775,281	1,397,901	3,124,411
ALL OTHER PORTS.							
July, 1886.....	450	29,393	29,843	2,740	842,430	845,170	875,013
August, 1886.....	259,837	38,655	298,492	6,316	780,265	786,581	1,085,073
September, 1886..	116,125	11,201	127,326	3,760	876,166	879,926	1,007,252
October, 1886....	2,000	35,542	37,542	7,117	958,711	965,828	1,003,370
November, 1886..	92,200	37,358	129,558	3,543	1,093,114	1,096,657	1,226,215
December, 1886..	338,024	30,014	368,038	1,745	1,150,028	1,151,773	1,519,811
January, 1887....	140,316	26,320	166,636	1,936	537,225	539,161	705,797
February, 1887...	12,750	11,043	23,793	3,181	745,126	748,307	772,100
March, 1887.....	3,092	16,540	19,632	24,588	573,576	598,164	617,796
April, 1887.....	338	9,340	9,678	2,772	382,523	385,295	394,973
May, 1887.....	7,100	51,151	58,251	2,834	480,691	483,525	541,776
June, 1887.....	8,793	51,268	60,061	3,130	430,124	433,254	493,315
Total.....	981,025	347,825	1,328,850	63,662	8,849,979	8,913,641	10,242,491
Total imports (coin).....	5,862,509	17,277,378	23,139,887	1,239,605	11,087,889	12,327,494	35,467,381

## XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## DOMESTIC EXPORTS.

Ports.	Bullion.						
	Gold.			Silver.			Total gold and silver bullion.
	United States mint or assay office bars.	Other bullion.	Total.	United States mint or assay office bars.	Other bullion.	Total.	
NEW YORK.							
July, 1886.....	\$1,027,532	\$6,600	\$1,034,132	\$31,400	\$515,200	\$546,600	\$1,580,732
August, 1886.....		3,300	3,300		530,650	530,650	533,950
September, 1886.....	7,750	10,476	18,226		546,950	546,950	565,176
October, 1886.....	7,144	45,090	52,234		545,300	545,300	597,534
November, 1886.....		16,575	16,575		752,050	752,050	768,625
December, 1886.....		18,883	18,883		706,450	706,450	725,333
January, 1887.....		17,288	17,288		440,170	440,170	457,458
February, 1887.....	941,025	8,870	949,895		779,525	779,525	1,729,420
March, 1887.....	10,000	5,225	15,225	31,000	446,735	477,735	492,960
April, 1887.....		440	440		1,166,740	1,166,740	1,167,180
May, 1887.....		3,532	3,532		985,750	985,750	989,282
June, 1887.....		1,400	1,400		577,496	577,496	578,896
Total.....	1,993,451	137,679	2,131,130	62,400	7,993,016	8,055,416	10,186,546
SAN FRANCISCO.							
July, 1886.....		500	500	900	757,018	757,918	758,418
August, 1886.....		1,774	1,774	22,200	621,702	643,902	645,676
September, 1886.....		4,943	4,943	65,000	600,865	665,865	670,808
October, 1886.....		4,375	4,375	13,700	369,900	383,600	387,975
November, 1886.....		5,540	5,540	10,600	512,369	522,969	528,509
December, 1886.....		3,443	3,443	9,600	1,054,378	1,063,978	1,067,421
January, 1887.....		450	450	850,800		850,800	851,250
February, 1887.....		140	140		943,090	943,090	943,230
March, 1887.....		110	110	93,922	449,453	543,375	543,485
April, 1887.....		1,050	1,050	5,455	1,041,545	1,047,000	1,048,050
May, 1887.....		355	355	46,000	613,300	659,300	659,655
June, 1887.....		724	724	4,900	799,600	804,500	805,224
Total.....		23,404	23,404	1,123,077	7,763,220	8,886,297	8,969,701
ALL OTHER PORTS.							
July, 1886.....							
August, 1886.....							
September, 1886.....							
October, 1886.....							
November, 1886.....							
December, 1886.....							
January, 1887.....							
February, 1887.....							
March, 1887.....							
April, 1887.....							
May, 1887.....							
June, 1887.....							
Total.....							
Total domestic exports (bullion).....	1,993,451	161,083	2,154,534	1,185,477	15,756,236	16,941,713	19,096,247

## XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## DOMESTIC EXPORTS—Continued.

Ports.	COIN.				Total gold and silver coin.
	Gold.	Silver.			
		Trade dollars.	Other.	Total.	
NEW YORK.					
July, 1886 .....	\$49,375 .....		\$4,744 .....	\$4,744 .....	\$54,119 .....
August, 1886 .....	29,360 .....				29,360 .....
September, 1886 .....	193,632 .....		20,580 .....	20,580 .....	214,212 .....
October, 1886 .....	89,723 .....		6,340 .....	6,340 .....	96,063 .....
November, 1886 .....	137,603 .....		4,199 .....	4,199 .....	141,802 .....
December, 1886 .....	122,869 .....		6,123 .....	6,123 .....	128,992 .....
January, 1887 .....	201,729 .....				201,729 .....
February, 1887 .....	250,596 .....		3,922 .....	3,922 .....	254,518 .....
March, 1887 .....	211,946 .....		12,552 .....	12,552 .....	224,498 .....
April, 1887 .....	392,507 .....		3,100 .....	3,100 .....	395,607 .....
May, 1887 .....	225,479 .....				225,479 .....
June, 1887 .....	360,908 .....		1,290 .....	1,290 .....	362,198 .....
Total .....	2,265,727 .....		62,850 .....	62,850 .....	2,328,577 .....
SAN FRANCISCO.					
July, 1886 .....	75,594 .....				75,594 .....
August, 1886 .....	91,477 .....				91,477 .....
September, 1886 .....	90,209 .....				90,209 .....
October, 1886 .....	113,880 .....				113,880 .....
November, 1886 .....	189,443 .....				189,443 .....
December, 1886 .....	151,822 .....				151,822 .....
January, 1887 .....	31,766 .....				31,766 .....
February, 1887 .....	22,065 .....				22,065 .....
March, 1887 .....	256,389 .....				256,389 .....
April, 1887 .....	43,655 .....				43,655 .....
May, 1887 .....	28,919 .....				28,919 .....
June, 1887 .....	170,337 .....				170,337 .....
Total .....	1,265,556 .....				1,265,556 .....
ALL OTHER PORTS.					
July, 1886 .....					
August, 1886 .....					
September, 1886 .....					
October, 1886 .....	3,000 .....				3,000 .....
November, 1886 .....	2,200 .....				2,200 .....
December, 1886 .....	2,500 .....				2,500 .....
January, 1887 .....	2,000 .....		250 .....	250 .....	2,250 .....
February, 1887 .....	9,677 .....				9,677 .....
March, 1887 .....					
April, 1887 .....	110 .....	10 .....	213 .....	223 .....	333 .....
May, 1887 .....					
June, 1887 .....					
Total .....	19,487 .....	10 .....	463 .....	473 .....	19,960 .....
Total domestic exports (coin) ..	3,550,770 .....	10 .....	63,313 .....	63,323 .....	3,614,093 .....



## XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## FOREIGN EXPORTS.

Ports.	Bullion.						Total gold and silver bullion.
	Gold.			Silver.			
	Bars.	Other bullion.	Total.	Bars.	Other bullion.	Total.	
NEW YORK.							
July, 1886 .....		\$6, 310	\$6, 310				\$6, 310
August, 1886 .....		4, 854	4, 854				4, 854
September, 1886 .....							
October, 1886 .....							
November, 1886 .....		3, 884	3, 884				3, 884
December, 1886 .....							
January, 1887 .....							
February, 1887 .....		3, 884	3, 884				3, 884
March, 1887 .....							
April, 1887 .....							
May, 1887 .....							
June, 1887 .....							
Total .....		18, 932	18, 932				18, 932
SAN FRANCISCO.							
July, 1886 .....							
August, 1886 .....							
September, 1886 .....							
October, 1886 .....							
November, 1886 .....							
December, 1886 .....							
January, 1887 .....							
February, 1887 .....							
March, 1887 .....							
April, 1887 .....							
May, 1887 .....							
June, 1887 .....							
Total .....							
ALL OTHER PORTS.							
July, 1886 .....							
August, 1886 .....							
September, 1886 .....							
October, 1886 .....							
November, 1886 .....							
December, 1886 .....							
January, 1887 .....							
February, 1887 .....							
March, 1887 .....							
April, 1887 .....							
May, 1887 .....							
June, 1887 .....							
Total .....							
Total foreign exports (bullion) .....		18, 932	18, 932				18, 932

## XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER, ETC.—Continued.

## FOREIGN EXPORTS—Continued.

Ports.	Coin.		Total gold and silver coin.
	Gold.	Silver.	
NEW YORK.			
July, 1886.....	\$9,400	\$141,079	\$150,479
August, 1886.....		286,743	286,743
September, 1886.....	1,350	122,006	123,356
October, 1886.....	800	80,080	80,880
November, 1886.....		144,156	144,156
December, 1886.....	5,830	158,842	164,672
January, 1887.....	375,760	177,381	553,141
February, 1887.....	441,140	100,113	541,253
March, 1887.....	1,961,256	154,990	2,116,246
April, 1887.....	1,056,484	166,471	1,222,955
May, 1887.....	37,984	51,125	89,109
June, 1887.....	86,947	69,672	156,619
Total.....	3,976,951	1,652,658	5,629,609
SAN FRANCISCO.			
July, 1886.....		789,820	789,820
August, 1886.....		418,397	418,397
September, 1886.....		1,121,630	1,121,630
October, 1886.....		715,915	715,915
November, 1886.....		791,769	791,769
December, 1886.....		1,550,177	1,550,177
January, 1887.....		433,923	433,923
February, 1887.....		500,947	500,947
March, 1887.....		432,132	432,132
April, 1887.....		222,373	222,373
May, 1887.....		187,196	187,196
June, 1887.....		263,276	263,276
Total.....		7,427,555	7,427,555
ALL OTHER PORTS.			
July, 1886.....		6,218	6,218
August, 1886.....			
September, 1886.....		15,307	15,307
October, 1886.....		1,854	1,854
November, 1886.....		1,533	1,532
December, 1886.....		2,856	2,856
January, 1887.....		13,000	13,000
February, 1887.....		23,550	23,550
March, 1887.....		32,948	32,948
April, 1887.....		41,009	41,009
May, 1887.....		41,580	41,580
June, 1887.....		31,400	31,400
Total.....		211,255	211,255
Total foreign exports (coin).....	3,976,951	9,291,463	13,268,419

**XXIX.—STATEMENT OF MANIFESTED IMPORTS AND EXPORTS OF GOLD  
AND SILVER, ETC.—Continued.**

**RECAPITULATION.**

Description.	Gold.	Silver.	Total.
<b>IMPORTS.</b>			
Bullion.....	\$19, 770, 714	\$4, 932, 697	\$24, 703, 411
Foreign coin .....	17, 277, 378	11, 087, 889	28, 365, 267
Total.....	37, 048, 092	16, 020, 586	53, 068, 678
American coin .....	5, 862, 509	1, 239, 605	7, 102, 114
Total bullion and coin.....	42, 910, 601	17, 260, 191	60, 170, 792
<b>EXPORTS.</b>			
Domestic bullion.....	2, 154, 534	16, 941, 713	19, 096, 247
Foreign bullion .....	18, 932	.....	18, 932
Foreign coin .....	3, 976, 951	9, 291, 468	13, 268, 419
Total.....	6, 150, 417	26, 233, 181	32, 383, 598
American coin .....	3, 550, 770	63, 323	3, 614, 093
Total bullion and coin.....	9, 701, 187	26, 296, 504	35, 997, 691
<b>EXCESS.</b>			
Bullion and foreign coin:			
Imports .....	30, 897, 675	.....	.....
Exports .....	.....	10, 212, 595	.....
American coin:			
Imports .....	2, 311, 739	1, 176, 282	3, 488, 021

XXX.—STATEMENT OF THE VALUES OF GOLD AND SILVER ORES IMPORTED INTO AND EXPORTED FROM THE UNITED STATES DURING THE YEAR ENDED JUNE 30, 1887.

## IMPORTS.

Months.	NEW YORK.		SAN FRANCISCO.		ALL OTHER CUSTOMS DISTRICTS.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
July, 1886 .....		\$470		\$10,534		\$186,991
August, 1886 .....		4,492		11,078		195,643
September, 1886 .....		95		850		241,406
October, 1886 .....		2,813		219		306,865
November, 1886 .....				427	\$12	355,916
December, 1886 .....	\$253	48,721		13,889	50	437,027
January, 1887 .....	2,303	41,469		2,046		444,698
February, 1887 .....		37,191		553	50	331,326
March, 1887 .....	145	5,877	\$198	43,906		247,329
April, 1887 .....	10	47,662		6,236	6,600	238,720
May, 1887 .....		7,177	4,000	11,052		292,562
June, 1887 .....	50	34,940		95		187,949
Total .....	2,761	230,907	4,198	100,885	6,712	3,466,492

Total import of gold ores, \$13,671; silver ores, \$3,798,284.

## EXPORTS (DOMESTIC).

Months.	ORES, GOLD AND SILVER BEARING.	
	New York.	San Francisco.
July, 1886 .....	\$17,419	
August, 1886 .....	12,155	
September, 1886 .....	775	
October, 1886 .....	1,853	
November, 1886 .....	5,057	
December, 1886 .....	6,282	\$50
January, 1887 .....	5,475	
February, 1887 .....	7,080	
March, 1887 .....	1,340	
April, 1887 .....	3,104	2,000
May, 1887 .....	2,311	
June, 1887 .....	14,654	
Total .....	77,505	2,050

Total exports of gold and silver-bearing ore (domestic), \$79,555.

## EXPORTS (FOREIGN).

Months.	NEW YORK.
	Silver ore.
March, 1887 .....	\$3,736
June, 1887 .....	14,679
Total exports of foreign silver ore* .....	23,415

\* No transactions in gold ore.

XXXI.—MANIFESTED IMPORTS AND EXPORTS OF GOLD AND SILVER AT  
SAN FRANCISCO DURING THE FISCAL YEAR 1887.

## IMPORTS.

Country of shipment.	Silver bullion.	Trade dollars.	Silver coin.	Gold bullion.	Gold coin.	Total.
French Possessions.....			\$36,191		\$5,132	\$41,323
British Columbia .....				\$652,719	21,841	674,560
British Possessions in Aus- tralia.....					1,021,769	1,021,769
Hawaiian Islands.....			5,050		113,567	118,617
Japan .....			18,834		235,503	254,337
Mexico .....	\$2,294,774		632,535	18,019	84,791	3,030,119
China.....		\$611,944	86,360	300	232,680	931,284
Nicaragua.....			2,613	500	1,490	4,603
Guatemala.....			2,074		5,122	7,196
San Salvador.....			2,300	1,980	3,930	8,210
Costa Rica.....					2,850	2,850
Total .....	2,294,774	611,944	785,957	673,518	1,728,675	6,094,868

## EXPORTS.

Destination.	Silver bullion.	Foreign silver coin.	Silver coin.	Gold bullion.	Gold coin.	Total.
British Columbia .....					\$2,000	\$2,000
British East Indies .....	\$1,725,203	\$120,000	\$50,128			1,895,331
Hawaiian Islands.....					920,400	920,400
Japan .....	2,984,225					2,984,225
Mexico .....		106,000				106,000
China.....	117,500					117,500
Hong-Kong.....	4,054,200	6,368,832	739,692	\$23,404	325,440	11,511,568
Guatemala.....	5,169				2,716	7,885
Honduras.....					5,000	5,000
San Salvador .....					10,000	10,000
All other islands and ports ..		2,000				2,000
Total .....	8,886,297	6,596,832	789,820	23,404	1,265,556	17,561,909

XXXII.—STATEMENT SHOWING THE IMPORTS INTO THE CUSTOMS DISTRICT OF NEW ORLEANS OF GOLD AND SILVER COIN AND BULLION DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

Countries.	GOLD.				SILVER.				Total.
	Bars.	Other bullion.	Coin.		Bars.	Other bullion.	Coin.		
			Ameri- can.	For- eign.			Ameri- can.	For- eign.	
Mexico.....		\$5, 630					\$400	\$8, 555	\$14, 585
All other countries...	\$6, 000	46, 565	\$1, 855				7, 767	175, 689	237, 876
Total.....	6, 000	52, 195	1, 855				8, 167	184, 244	252, 461

XXXIII.—STATEMENT SHOWING THE IMPORTS INTO THE CUSTOMS DISTRICT OF EL PASO, TEXAS, OF GOLD AND SILVER COIN AND BULLION DURING THE FISCAL YEAR ENDED JUNE 30, 1887.

Country.	GOLD.				SILVER.				Total.
	Bars.	Other bullion.	Coin.		Bars.	Other bullion.	Coin.		
			American.	Foreign.			American.	Foreign.	
Mexico.	\$264, 441	.....	\$221, 545	\$101, 199	\$1, 021, 898	\$1, 098, 420	\$4, 536, 808	\$3, 358, 511	\$10, 602, 822

XXXIV.—UNREFINED GOLD AND SILVER OF DOMESTIC PRODUCTION, ITS DISTRIBUTION BY STATES AND TERRITORIES. ALSO REFINED DOMESTIC BULLION (NOT DISTRIBUTED) DEPOSITED AT THE MINTS AND ASSAY OFFICES FROM THEIR ORGANIZATION TO THE CLOSE OF THE FISCAL YEAR ENDED JUNE 30, 1887.

Locality.	Gold.	Silver.	Total.
Alabama .....	\$229,527.94	\$66.48	\$229,594.42
Alaska .....	349,337.10	3,113.50	352,450.60
Arizona .....	4,233,591.51	13,606,133.36	17,839,724.87
California .....	745,242,308.11	3,984,815.59	749,227,123.70
Colorado .....	52,042,020.89	24,309,567.35	76,351,588.24
Dakota .....	28,375,115.54	779,586.04	29,154,702.48
Georgia .....	8,540,589.94	3,946.78	8,544,536.72
Idaho .....	20,028,506.24	1,606,000.44	30,634,506.68
Indiana .....	40.13	.....	40.13
Maine .....	5,638.20	22.00	5,660.20
Maryland .....	5,047.42	3.29	5,050.71
Massachusetts .....	.....	917.56	917.56
Michigan .....	53,016.09	3,660,595.18	3,713,611.27
Montana .....	60,171,929.65	14,214,350.09	74,386,279.74
Nebraska .....	651.63	6.18	657.81
Nevada .....	23,931,926.49	93,365,651.64	117,297,578.13
New Hampshire .....	11,020.55	.....	11,020.55
New Mexico .....	2,720,387.00	5,990,526.14	8,710,913.14
North Carolina .....	11,174,011.62	50,156.24	11,224,167.86
Oregon .....	19,189,008.85	64,806.03	19,253,814.88
Pennsylvania .....	1,138.34	2,588.47	3,726.81
South Carolina .....	1,649,625.84	1,561.88	1,651,187.72
Tennessee .....	87,845.22	10.15	87,855.37
Texas .....	2,147.40	2,739.03	4,886.43
Utah .....	894,875.24	19,044,650.77	19,939,526.01
Vermont .....	85,508.21	49.94	85,648.15
Virginia .....	1,724,860.50	270.23	1,725,130.73
Washington .....	446,488.20	2,230.38	448,718.58
Wyoming .....	750,645.36	12,182.33	771,827.69
Other sources, or localities not reported .....	37,661,034.99	42,019,280.84	79,680,315.83
Total Unrefined .....	1,028,616,934.20	222,725,828.81	1,251,342,763.01
Refined bullion .....	305,992,216.65	200,929,982.19	506,922,198.84
Total .....	1,334,609,150.85	423,655,811.00	1,758,264,961.85

## REPORT ON THE FINANCES.

## XXXV.—COINAGE OF TRADE DOLLARS AT THE MINTS OF THE UNITED STATES, BY MONTHS.

[Act of February 12, 1873, sec. 15.]

Date.	San Francisco.	Carson City.	Philadelphia.		Total coinage.	
					Month.	Calendar year.
1873.						
July .....	42,000	16,500	99,000	200	157,700	
August .....	111,000	6,000	94,000	100	211,100	
September .....	137,000	8,000	103,500	100	248,600	
October .....	98,000	37,000	.....	100	135,100	
November .....	115,000	13,500	16,400	.....	144,900	
December .....	200,000	43,500	84,000	100	327,600	
	703,000	124,500	396,900	600	.....	1,225,000
1874.						
January .....		9,600	19,000	100	28,700	
February .....	270,000	38,100	134,800	200	443,100	
March .....	250,000	52,500	199,900	100	502,500	
April .....	273,000	48,500	105,000	100	426,600	
May .....	266,000	65,500	97,800	.....	529,300	
June .....	259,000	71,000	103,600	100	433,700	
July .....	153,000	76,500	100,000	.....	334,500	
August .....	191,000	145,500	96,000	.....	432,500	
September .....	271,000	209,000	131,000	50	611,050	
October .....	229,000	201,000	.....	.....	430,000	
November .....	95,000	216,000	.....	.....	311,000	
December .....	187,000	240,000	.....	50	427,050	
	2,549,000	1,373,200	987,100	700	.....	4,910,000
1875.						
January* .....	695,000	225,000	.....	300	920,300	6,135,000
February .....	109,000	87,000	.....	.....	196,000	
March .....	30,000	.....	.....	200	30,200	
April .....	652,000	75,000	200	.....	727,200	
May .....	535,000	278,000	149,000	.....	962,000	
June .....	227,000	88,700	.....	.....	315,700	
July .....	.....	.....	.....	50	50	
August .....	311,000	35,000	69,000	50	415,050	
September .....	281,000	234,000	.....	100	515,100	
October .....	614,000	256,000	.....	.....	870,000	
November .....	517,000	234,000	.....	.....	751,000	
December .....	516,000	61,000	.....	.....	577,000	
	4,487,000	1,573,700	218,200	700	.....	6,279,600
						12,414,600

\* Resumption Act approved January 14, 1875.



## XXXV.—COINAGE OF TRADE DOLLARS AT THE MINTS OF THE UNITED STATES, BY MONTHS—Continued.

Date.	San Francisco.	Carson City.	Philadelphia.		Total coinage.	
					Month.	Calendar year.
1876.						
January .....	342,000	216,000	81,000	200	639,200	
February .....	410,000	80,000	64,000	50	554,050	
March .....	706,000	85,000	.....	200	791,200	
April .....	385,000	128,000	.....	100	513,100	
May .....	318,000	.....	.....	100	318,100	
June .....	123,000	.....	65,000	200	188,200	
July* .....	127,000	.....	86,000	.....	213,000	
						3,216,850
						15,631,450
August .....	473,000	.....	84,000	200	557,200	
September .....	450,000	.....	75,000	.....	525,000	
October .....	465,000	.....	.....	.....	465,000	
November .....	545,000	.....	.....	100	545,100	
December .....	883,000	.....	.....	.....	883,000	
	5,227,000	509,000	455,000	1,150	6,192,150	2,975,300
1877.						18,606,750
January .....	1,082,000	.....	.....	.....	1,082,000	
February .....	863,000	.....	200	400	863,600	
March .....	837,000	.....	59,000	.....	896,000	
April .....	876,000	.....	181,000	.....	1,057,000	
May .....	1,129,000	.....	291,000	.....	1,420,000	
June .....	312,000	221,000	123,000	.....	656,000	
July .....	762,000	188,000	536,000	.....	1,486,000	
August .....	1,329,000	122,000	440,000	.....	1,891,000	
September .....	1,275,000	.....	402,000	.....	1,677,000	
October .....	481,000	.....	594,000	50	1,075,050	
November .....	.....	.....	400,000	.....	400,000	
December .....	573,000	3,000	13,000	60	589,060	
	9,519,000	534,000	3,039,200	510	.....	13,092,710
1878.						31,699,460
January .....	1,335,000	56,000	.....	300	1,391,300	
February† .....	1,484,000	41,000	.....	200	1,525,200	
						2,916,500
						34,615,960
March .....	1,308,000	.....	.....	200	1,308,200	
April .....	35,000	.....	.....	.....	35,000	
May .....	.....	.....	.....	200	200	
	4,162,000	97,000	.....	900	4,259,900	1,343,400
	26,647,000	4,211,400	5,096,400	4,560	.....	35,959,360
			5,100,960			

\* Trade dollar demonetized by joint resolution July 22, 1876.

† Standard silver dollar coinage act passed over veto February 23, 1878.

## XXXV.—COINAGE OF TRADE DOLLARS AT THE MINTS OF THE UNITED STATES, BY MONTHS—Continued.

Date.	San Francisco.	Carson City.	Philadelphia.		Total coinage:	
					Month.	Calendar year.
1878.				"Proof pieces."		
June.....						
July.....						
August.....						
September.....						
October.....						
November.....						
December.....						
						4,259,900
						35,959,360
1879.						
January.....				122	122	
February.....				96	96	
March.....				75	75	
April.....				119	119	
May.....				90	90	
June.....				140	140	
July.....				40	40	
August.....				45	45	
September.....				89	89	
October.....				64	64	
November.....				80	80	
December.....				581	581	
				1,541		1,541
						35,960,901
1880.						
January.....						
February.....				488	488	
March.....				777	777	
April.....				201	201	
May.....				58	58	
June.....				50	50	
July.....				20	20	
August.....				25	25	
September.....				30	30	
October.....				27	27	
November.....				40	40	
December.....				271	271	
				1,987		1,987
						35,962,888

## XXXV.—COINAGE OF TRADE DOLLARS AT THE MINTS OF THE UNITED STATES, BY MONTHS—Continued.

Date.	San Francisco.	Carson City.	Philadelphia.		Total coinage.	
				"Proof pieces."	Month.	Calendar year.
1881.						
January .....						
February .....				300	300	
March .....				175	175	
April .....				85	85	
May .....				40	40	
June .....				70	70	
July .....						
August .....				10	10	
September .....				25	25	
October .....				51	51	
November .....				38	38	
December .....				166	166	
Total .....				960		960
1882.						35,963,848
January .....						
February .....				393	393	
March .....				277	277	
April .....				49	49	
May .....				70	70	
June .....				23	23	
July .....				30	30	
August .....				10	10	
September .....				20	20	
October .....				20	20	
November .....				40	40	
December .....				165	165	
Total .....				1,097		1,097
1883.						35,964,945
January .....				30	30	
February .....				247	247	
March .....				298	298	
April .....				110	110	
May .....				30	30	
June .....				12	12	
July .....				10	10	
August .....				39	39	
September .....				25	25	
October .....				60	60	
November .....				8	8	
December .....				110	110	
Total .....				979		979
Aggregate coinage.	26,647,000	4,211,400	5,096,400	11,124		35,965,924
			5,107,524			

Authority to coin trade dollars repealed }  
 Redemption of trade dollars authorized } Act of March 3, 1887.

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES, FROM THEIR ORGANIZATION

[Coinage of the Mint at Philadelphia from 1793 to 1843.]

Calendar years.	GOLD COINAGE.					
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.
1793 to 1795.....		\$27,950	\$43,535			
1796.....		60,800	16,995		\$165.00	
1797.....		91,770	32,030		4,390.00	
1798.....		79,740	124,335		1,535.00	
1799.....		174,830	37,255		1,200.00	
1800.....		253,650	58,110			
1801.....		292,540	130,030			
1802.....		150,900	265,880		6,530.00	
1803.....		89,790	107,530		1,057.50	
1804.....		97,950	152,375		8,317.50	
1805.....			165,915		4,452.50	
1806.....			320,465		4,040.00	
1807.....			420,465		17,030.00	
1808.....			277,890		6,775.00	
1809.....			169,375			
1810.....			501,435			
1811.....			497,905			
1812.....			290,435			
1813.....			477,140			
1814.....			77,270			
1815.....			3,175			
1816.....						
1817.....						
1818.....			242,940			
1819.....			258,615			
1820.....			1,319,030			
1821.....			173,205		16,120.00	
1822.....			88,980			
1823.....			72,425			
1824.....			86,700		6,500.00	
1825.....			145,300		11,085.00	
1826.....			90,345		1,900.00	
1827.....			124,565		70,000.00	
1828.....			140,145			
1829.....			287,210		8,507.50	
1830.....			631,755		11,350.00	
1831.....			702,970		11,300.00	
1832.....			787,435		11,000.00	
1833.....			968,150		10,400.00	
1834.....			3,660,845		293,425.00	
1835.....			1,857,670		328,505.00	
1836.....			2,765,735		1,369,965.00	
1837.....			1,035,605		112,700.00	
1838.....		72,000	1,432,940		117,575.00	
1839.....		382,480	500,715		67,552.50	
1840.....		473,380	686,910		47,147.50	
1841.....		631,310	79,165			
1842.....		815,070	137,890		7,057.50	
1843.....		754,620	3,056,025		251,365.00	

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES.

its organization, 1793, to June 30, 1887.]

SILVER COINAGE.							
Trade dollars.	Dollars.	Half dollars.	Quarter dollars.	Twenty cents.	Dimes.	Half dimes.	Three cents.
.....	\$204,791.00	\$161,572.00	.....	.....	.....	\$4,320.80	.....
.....	68,150.00	.....	\$1,473.50	.....	\$2,213.50	511.50	.....
.....	12,546.00	1,959.00	63.00	.....	2,526.10	2,226.35	.....
.....	327,536.00	.....	.....	.....	2,755.00	.....	.....
.....	423,515.00	.....	.....	.....	.....	.....	.....
.....	220,920.00	.....	.....	.....	2,176.00	1,200.00	.....
.....	54,454.00	15,144.50	.....	.....	3,464.00	1,695.50	.....
.....	41,650.00	14,945.00	.....	.....	1,097.50	650.50	.....
.....	66,064.00	15,857.50	.....	.....	3,304.00	1,892.50	.....
.....	19,570.00	78,259.50	1,684.50	.....	826.50	.....	.....
.....	321.00	105,861.00	30,348.50	.....	12,078.00	780.00	.....
.....	.....	419,788.00	51,531.00	.....	.....	.....	.....
.....	.....	525,788.00	55,160.75	.....	16,500.00	.....	.....
.....	.....	684,300.00	.....	.....	.....	.....	.....
.....	.....	702,905.00	.....	.....	4,471.00	.....	.....
.....	.....	638,138.00	.....	.....	635.50	.....	.....
.....	.....	601,822.00	.....	.....	6,518.00	.....	.....
.....	.....	814,029.50	.....	.....	.....	.....	.....
.....	.....	620,951.50	.....	.....	.....	.....	.....
.....	.....	519,537.50	.....	.....	42,150.00	.....	.....
.....	.....	.....	17,308.00	.....	.....	.....	.....
.....	.....	23,575.00	5,000.75	.....	.....	.....	.....
.....	.....	607,783.50	.....	.....	.....	.....	.....
.....	.....	980,161.00	90,293.50	.....	.....	.....	.....
.....	.....	1,104,000.00	36,000.00	.....	.....	.....	.....
.....	.....	375,561.00	31,861.00	.....	94,258.70	.....	.....
.....	.....	652,898.50	54,212.75	.....	118,651.20	.....	.....
.....	.....	779,786.50	16,020.00	.....	10,000.00	.....	.....
.....	.....	847,100.00	4,450.00	.....	44,000.00	.....	.....
.....	.....	1,752,477.00	.....	.....	.....	.....	.....
.....	.....	1,471,583.00	42,000.00	.....	51,000.00	.....	.....
.....	.....	2,002,090.00	.....	.....	.....	.....	.....
.....	.....	2,746,700.00	1,000.00	.....	121,500.00	.....	.....
.....	.....	1,537,600.00	25,500.00	.....	12,500.00	.....	.....
.....	.....	1,856,078.00	.....	.....	77,000.00	61,500.00	.....
.....	.....	2,382,400.00	.....	.....	51,000.00	62,000.00	.....
.....	.....	2,936,830.00	99,500.00	.....	77,135.00	62,135.00	.....
.....	.....	2,398,500.00	80,000.00	.....	52,250.00	48,250.00	.....
.....	.....	2,603,000.00	39,000.00	.....	48,500.00	68,500.00	.....
.....	.....	3,206,002.00	71,500.00	.....	63,500.00	74,000.00	.....
.....	.....	2,676,003.00	488,000.00	.....	141,000.00	138,000.00	.....
.....	1,000.00	3,273,100.00	118,000.00	.....	119,000.00	95,000.00	.....
.....	.....	1,814,910.00	63,100.00	.....	104,200.00	113,800.00	.....
.....	.....	1,773,000.00	208,000.00	.....	199,250.00	112,750.00	.....
.....	300.00	1,667,280.00	122,786.50	.....	105,311.50	53,457.50	.....
.....	61,005.00	717,504.00	47,031.75	.....	135,858.00	67,204.25	.....
.....	173,000.00	155,000.00	30,000.00	.....	162,250.00	57,500.00	.....
.....	184,618.00	1,006,382.00	22,000.00	.....	188,750.00	40,750.00	.....
.....	165,100.00	1,922,000.00	161,400.00	.....	137,000.00	58,250.00	.....

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the Mint at Philadelphia from 1792 to 1892]

Calendar years.	GOLD COINAGE.					
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.
1844.....		\$63, 610	\$1, 701, 650		\$16, 960. 00	
1845.....		261, 530	2, 085, 495		227, 627. 50	
1846.....		200, 950	1, 979, 710		53, 995. 00	
1847.....		8, 622, 580	4, 579, 905		74, 535. 00	
1848.....		1, 454, 840	1, 303, 875		22, 215. 00	
1849.....		6, 536, 180	665, 350		58, 235. 00	\$682, 567
1850.....	\$23, 405, 220	2, 914, 510	322, 455		632, 307. 50	481, 953
1851.....	41, 743, 100	1, 763, 280	1, 887, 525		3, 431, 870. 00	3, 317, 671
1852.....	41, 060, 520	2, 631, 060	2, 869, 505		2, 899, 202. 50	2, 045, 351
1853.....	25, 226, 520	2, 012, 530	1, 528, 850		3, 511, 670. 00	4, 676, 051
1854.....	15, 157, 980	542, 500	803, 375	\$415, 854	1, 490, 645. 00	1, 639, 445
1855.....	7, 293, 320	1, 217, 010	585, 490	151, 665	588, 700. 00	758, 269
1856.....	6, 597, 560	604, 900	989, 950	78, 030	960, 600. 00	578, 356
1857.....	8, 787, 500	166, 060	490, 940	62, 673	535, 325. 00	774, 789
1858.....	4, 234, 280	25, 210	75, 680	6, 399	118, 442. 50	117, 995
1859.....	871, 940	160, 930	84, 070	46, 914	98, 610. 00	168, 244
1860.....	11, 553, 400	117, 830	99, 125	21, 465	56, 687. 50	36, 668
1861.....	59, 529, 060	1, 132, 330	3, 199, 750	18, 216	3, 181, 295. 00	527, 499
1862.....	1, 842, 660	109, 950	22, 325	17, 355	280, 882. 50	1, 326, 865
1863.....	2, 855, 800	12, 480	12, 360	15, 117	75. 00	6, 250
1864.....	4, 085, 700	35, 800	21, 100	8, 040	7, 185. 00	5, 950
1865.....	7, 024, 000	40, 050	6, 475	3, 495	3, 862. 50	3, 725
1866.....	13, 975, 500	37, 800	33, 600	12, 090	7, 775. 00	7, 180
1867.....	5, 021, 300	31, 400	34, 600	7, 950	8, 125. 00	5, 250
1868.....	1, 972, 000	106, 550	28, 625	14, 625	9, 062. 50	10, 525
1869.....	3, 503, 100	18, 550	8, 925	7, 575	10, 862. 50	5, 925
1870.....	3, 103, 700	25, 350	20, 175	10, 605	11, 387. 50	6, 335
1871.....	1, 603, 000	17, 800	16, 150	3, 990	13, 375. 00	3, 930
1872.....	5, 037, 600	16, 500	8, 450	6, 090	7, 575. 00	3, 530
1873.....	34, 196, 500	8, 250	562, 525	75	445, 062. 50	125, 125
1874.....	7, 336, 000	531, 600	17, 540	125, 460	9, 850. 00	198, 820
1875.....	5, 914, 800	1, 200	1, 100	60	1, 050. 00	420
1876.....	11, 678, 100	7, 320	7, 385	135	10, 552. 50	3, 245
1877.....	7, 953, 400	8, 170	5, 760	4, 464	4, 130. 00	3, 920
1878.....	10, 872, 900	738, 000	658, 700	246, 972	715, 650. 00	3, 020
1879.....	4, 152, 600	3, 847, 700	1, 509, 750	9, 090	222, 475. 00	3, 030
1880.....	1, 029, 120	16, 448, 760	15, 832, 180	3, 108	7, 490. 00	1, 636
1881.....	45, 200	38, 772, 600	28, 544, 000	1, 650	1, 700. 00	7, 660
1882.....	12, 600	23, 244, 800	12, 572, 800	4, 620	10, 100. 00	5, 040
1883.....	800	2, 087, 400	1, 167, 200	2, 820	4, 900. 00	10, 840
1884.....	1, 420	769, 050	955, 240	3, 318	4, 982. 50	6, 206
1885.....	16, 560	2, 535, 270	3, 007, 530	2, 730	2, 217. 50	12, 205
1886.....	22, 120	2, 361, 600	1, 942, 160	3, 426	10, 220. 00	6, 016
Total .....	378, 716, 880	126, 696, 570	117, 902, 170	1, 316, 076	22, 578, 417. 50	16, 983, 506
December 31, 1886, to June 30, 1887.....	1, 080	400	210	255	167. 50	493
Total .....	378, 717, 960	126, 696, 970	117, 902, 380	1, 316, 331	22, 578, 585. 00	16, 983, 999

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its organization, 1793, to June 30, 1887.]

SILVER COINAGE.							
Trade dollars.	Dollars.	Half dollars.	Quarter dollars.	Twenty cents.	Dimes.	Half dimes.	Three cents.
.....	\$20,000	\$883,000.00	883,000.00	.....	\$7,250.00	\$21,500.00	.....
.....	24,500	294,500.00	230,500.00	.....	175,500.00	78,200.00	.....
.....	110,600	1,105,000.00	127,500.00	.....	3,130.00	1,350.00	.....
.....	140,750	578,000.00	183,500.00	.....	24,500.00	63,700.00	.....
.....	15,030	290,000.00	36,500.00	.....	45,150.00	33,400.00	.....
.....	62,600	626,000.00	85,000.00	.....	83,900.00	65,450.00	.....
.....	7,500	113,500.00	47,700.00	.....	193,150.00	47,750.00	.....
.....	1,300	100,375.00	40,000.00	.....	102,650.00	39,050.00	\$163,422.00
.....	1,100	38,565.00	44,265.00	.....	133,550.00	50,025.00	559,905.00
.....	46,110	1,766,354.00	3,813,555.00	.....	1,217,301.00	667,251.00	342,000.00
.....	33,140	1,491,000.00	3,095,000.00	.....	447,000.00	287,000.00	20,130.00
.....	26,000	379,750.00	714,250.00	.....	207,500.00	87,500.00	4,170.00
.....	63,500	469,000.00	1,816,000.00	.....	578,000.00	244,000.00	43,740.00
.....	94,000	994,000.00	2,411,000.00	.....	558,000.00	364,000.00	31,260.00
.....	.....	2,113,000.00	1,842,000.00	.....	154,000.00	175,000.00	48,120.00
.....	256,500	374,000.00	336,000.00	.....	43,000.00	17,000.00	10,950.00
.....	218,930	151,850.00	201,350.00	.....	60,700.00	39,950.00	8,610.00
.....	78,500	1,444,200.00	1,213,650.00	.....	192,400.00	164,050.00	14,940.00
.....	12,090	126,175.00	233,137.50	.....	84,755.00	74,627.50	10,906.50
.....	27,660	251,830.00	48,015.00	.....	1,446.00	923.00	643.80
.....	31,170	189,785.00	23,517.50	.....	3,907.00	23.50	14.10
.....	47,000	255,950.00	14,825.00	.....	1,050.00	675.00	255.00
.....	49,625	372,812.50	4,381.25	.....	872.50	536.25	681.75
.....	60,325	212,162.50	5,156.25	.....	662.50	431.25	138.75
.....	182,700	189,100.00	7,500.00	.....	46,625.00	4,295.00	123.00
.....	424,300	397,950.00	4,150.00	.....	25,660.00	10,430.00	153.00
.....	433,000	300,450.00	21,850.00	.....	47,150.00	26,830.00	120.00
.....	1,115,760	582,680.00	42,808.00	.....	75,361.00	74,443.00	127.80
.....	1,106,450	440,775.00	45,737.50	.....	239,645.00	147,397.50	58.50
\$397,500	293,600	1,308,750.00	371,075.00	.....	394,710.00	35,630.00	18.00
987,800	.....	1,180,150.00	117,975.00	.....	294,070.00	.....	.....
218,900	.....	3,013,750.00	1,073,375.00	\$7,940	1,035,070.00	.....	.....
456,150	.....	4,209,575.00	4,454,287.50	3,180	1,146,115.00	.....	.....
3,039,710	.....	4,152,255.00	2,727,927.50	102	731,051.00	.....	.....
900	10,509,550	689,200.00	565,200.00	120	167,880.00	.....	.....
1,541	14,807,100	2,950.00	3,675.00	.....	1,510.00	.....	.....
1,987	12,601,355	4,877.50	3,738.75	.....	3,735.50	.....	.....
960	9,163,975	5,487.50	3,243.75	.....	2,497.50	.....	.....
1,097	11,101,100	2,750.00	4,075.00	.....	391,110.00	.....	.....
979	12,291,039	4,519.50	3,859.75	.....	767,571.20	.....	.....
.....	14,070,875	2,637.50	2,218.75	.....	336,638.00	.....	.....
.....	17,787,767	3,065.00	3,632.50	.....	253,342.70	.....	.....
.....	19,963,886	2,943.00	1,471.50	.....	637,757.00	.....	.....
5,107,524	129,304,897	82,304,836.50	28,921,828.50	11,342	13,151,502.40	3,948,791.90	1,260,487.20
.....	11,390,470	235.00	117.50	.....	433,369.90	.....	.....
5,107,524	140,695,367	82,305,071.50	28,921,946.00	11,342	13,584,872.30	3,948,791.90	1,260,487.20

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at Philadelphia from

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1793-1795.....			
1796.....			
1797.....			
1798.....			
1799.....			
1800.....			
1801.....			
1802.....			
1803.....			
1804.....			
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1839.....			
1840.....			
1841.....			
1842.....			
1843.....			



ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued,  
its organization, 1793, to June 30, 1887.]

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half-cents.	Gold.	Silver.	Minor.	Total.
\$10,660.33	\$712.67	\$71,485.00	\$370,683.80	\$11,373.00	\$453,541.80
9,747.00	577.40	77,960.00	72,348.50	10,324.40	160,632.90
8,975.10	535.24	128,190.00	19,320.45	9,510.34	157,020.79
9,797.00	.....	205,610.00	330,291.00	9,797.00	545,698.00
9,045.85	60.83	213,285.00	423,515.00	9,106.68	645,906.68
28,221.75	1,057.65	317,760.00	224,296.00	29,279.40	571,335.40
13,628.37	.....	422,570.00	74,758.00	13,628.37	510,956.37
34,351.00	71.83	423,310.00	58,343.00	34,422.83	516,075.83
24,713.53	489.50	253,377.50	87,118.00	25,203.03	370,698.53
7,568.38	5,276.56	258,642.50	100,340.50	12,844.94	371,827.94
9,411.16	4,072.32	170,367.50	149,388.50	13,483.48	333,239.48
3,480.00	1,780.00	324,505.00	471,319.00	5,260.00	801,084.00
7,272.21	2,380.00	437,495.00	597,448.75	9,652.21	1,044,595.96
11,090.00	2,000.00	284,665.00	684,300.00	13,090.00	982,055.00
2,228.67	5,772.86	169,375.00	707,376.00	8,001.53	884,752.53
14,585.00	1,075.00	501,435.00	638,773.50	15,660.00	1,155,868.50
2,180.25	315.70	497,905.00	608,340.00	2,495.95	1,108,740.95
10,755.00	.....	290,435.00	814,029.50	10,755.00	1,115,219.50
4,180.00	.....	477,140.00	620,951.50	4,180.00	1,102,271.50
3,578.30	.....	77,270.00	561,687.50	3,578.30	642,535.80
.....	.....	3,175.00	17,308.00	.....	20,483.00
28,209.82	.....	.....	28,575.75	28,209.82	56,785.57
39,484.00	.....	.....	607,783.50	39,484.00	647,267.50
31,670.00	.....	242,940.00	1,070,454.50	31,670.00	1,345,064.50
26,710.00	.....	258,615.00	1,140,000.00	26,710.00	1,425,325.00
44,075.50	.....	1,319,030.00	501,680.70	44,075.50	1,864,786.20
3,890.00	.....	189,325.00	825,762.45	3,890.00	1,018,977.45
20,723.39	.....	88,980.00	805,806.50	20,723.39	915,509.89
.....	.....	72,425.00	895,550.00	.....	967,975.00
12,620.00	.....	93,200.00	1,752,477.00	12,620.00	1,858,297.00
14,611.00	315.00	156,385.00	1,564,583.00	14,926.00	1,735,894.00
15,174.25	1,170.00	92,245.00	2,002,090.00	16,344.25	2,110,679.25
23,577.32	.....	194,565.00	2,869,200.00	23,577.32	3,087,342.32
22,606.24	3,030.00	140,145.00	1,575,600.00	25,636.24	1,741,381.24
14,145.00	2,435.00	295,717.50	1,994,578.00	16,580.00	2,300,875.50
17,115.00	.....	643,105.00	2,495,400.00	17,115.00	3,155,620.00
33,592.60	11.00	714,270.00	3,175,600.00	33,603.60	3,923,473.60
23,620.00	.....	798,435.00	2,579,000.00	23,620.00	3,401,055.00
27,390.00	770.00	978,550.00	2,759,000.00	28,160.00	3,765,710.00
18,551.00	600.00	3,954,270.00	3,415,002.00	19,151.00	7,388,423.00
38,784.00	705.00	2,186,175.00	3,443,003.00	39,489.00	5,668,667.00
21,110.00	1,990.00	4,135,700.00	3,606,100.00	23,100.00	7,764,900.00
55,583.00	.....	1,148,305.00	2,096,010.00	55,583.00	3,299,898.00
63,702.00	.....	1,622,515.00	2,293,000.00	63,702.00	3,979,217.00
31,286.61	.....	1,040,747.50	1,949,135.50	31,286.61	3,021,169.61
24,627.00	.....	1,207,437.50	1,028,603.00	24,627.00	2,260,667.50
15,973.67	.....	710,475.00	577,750.00	15,973.67	1,304,198.67
23,833.90	.....	960,017.50	1,442,500.00	23,833.90	2,426,351.40
24,283.20	.....	4,062,010.00	2,443,750.00	24,283.20	6,530,043.20

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at Philadelphia from

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1844.....			
1845.....			
1846.....			
1847.....			
1848.....			
1849.....			
1850.....			
1851.....			
1852.....			
1853.....			
1854.....			
1855.....			
1856.....			
1857.....			
1858.....			
1859.....			
1860.....			
1861.....			
1862.....			
1863.....			
1864.....			\$396,950.00
1865.....		\$341,460.00	272,800.00
1866.....	\$737,125.00	144,030.00	63,540.00
1867.....	1,545,475.00	117,450.00	58,775.00
1868.....	1,440,850.00	97,560.00	56,075.00
1869.....	819,750.00	48,120.00	30,930.00
1870.....	240,300.00	40,050.00	17,225.00
1871.....	28,050.00	18,120.00	14,425.00
1872.....	301,800.00	25,860.00	1,300.00
1873.....	227,500.00	35,190.00	
1874.....	176,900.00	23,700.00	
1875.....	204,850.00	6,840.00	
1876.....	126,500.00	4,860.00	
1877.....			
1878.....	117.50	70.50	
1879.....	1,455.00	1,236.00	
1880.....	997.75	748.65	
1881.....	3,618.75	32,417.25	
1882.....	573,830.00	759.00	
1883.....	1,148,471.05	318.27	
1884.....	563,697.16	169.26	
1885.....	73,824.50	143.70	
1886.....	166,514.50	128.70	
Total .....	8,281,626.15	939,231.33	912,020.00
December 31, 1886, to June 30, 1887.....	386,055.60	54.63	
Total .....	8,667,681.75	939,285.96	912,020.00

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its organization, 1793, to June 30, 1887.]

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half-cents.	Gold.	Silver.	Minor.	Total.
\$23, 987.52	.....	\$1, 782, 220.00	\$1, 814, 750.00	\$23, 987.52	\$3, 620, 957.52
38, 948.04	.....	2, 574, 652.50	803, 200.00	38, 948.04	3, 416, 800.54
41, 208.00	.....	2, 234, 655.00	1, 347, 580.00	41, 208.00	3, 623, 443.00
61, 836.69	.....	13, 277, 020.00	960, 450.00	61, 836.69	14, 329, 306.69
64, 157.99	.....	2, 780, 930.00	420, 050.00	64, 157.99	3, 265, 137.99
41, 785.00	\$199.32	7, 948, 332.00	922, 950.00	41, 984.32	8, 913, 266.32
44, 268.44	199.06	27, 756, 445.50	409, 600.00	44, 467.50	28, 210, 513.00
98, 897.07	738.36	52, 143, 446.00	446, 797.00	99, 635.43	52, 689, 878.43
50, 630.94	.....	51, 505, 638.50	847, 410.00	50, 630.94	52, 403, 679.44
66, 411.31	648.47	36, 355, 621.00	7, 852, 571.00	67, 059.78	44, 275, 251.78
42, 361.56	276.79	20, 049, 799.00	5, 373, 270.00	42, 638.35	25, 465, 707.35
15, 748.29	282.50	10, 594, 454.00	1, 419, 170.00	16, 030.79	12, 029, 654.79
26, 904.63	202.15	9, 809, 396.00	3, 214, 240.00	27, 106.78	13, 050, 742.78
177, 834.56	175.90	10, 817, 287.00	4, 452, 260.00	178, 010.46	15, 447, 557.46
246, 000.00	.....	4, 578, 006.50	4, 332, 120.00	246, 000.00	9, 156, 126.50
364, 000.00	.....	1, 430, 708.00	1, 037, 450.00	364, 000.00	2, 832, 158.00
205, 660.00	.....	11, 885, 175.50	681, 390.00	205, 660.00	12, 772, 225.50
101, 000.00	.....	67, 588, 150.00	3, 107, 740.00	101, 000.00	70, 796, 890.00
280, 750.00	.....	3, 600, 037.50	541, 691.50	280, 750.00	4, 222, 479.00
498, 400.00	.....	2, 902, 082.00	330, 517.80	498, 400.00	3, 730, 999.80
529, 737.14	.....	4, 163, 775.00	248, 417.10	529, 737.14	5, 338, 879.24
354, 292.86	.....	7, 081, 607.50	319, 755.00	354, 292.86	8, 369, 915.36
98, 265.00	.....	14, 073, 945.00	428, 909.25	1, 042, 960.00	15, 545, 814.25
98, 210.00	.....	5, 108, 625.00	278, 876.25	1, 819, 910.00	7, 207, 411.25
102, 665.00	.....	2, 141, 387.50	430, 343.00	1, 697, 150.00	4, 268, 880.50
64, 200.00	.....	3, 554, 937.50	862, 643.00	963, 000.00	5, 380, 580.50
52, 750.00	.....	3, 177, 552.50	829, 400.00	350, 325.00	4, 357, 277.50
39, 295.00	.....	1, 658, 245.00	1, 891, 179.80	99, 890.00	3, 649, 314.80
40, 420.00	.....	5, 079, 745.00	1, 980, 063.50	369, 380.00	7, 429, 188.50
116, 765.00	.....	35, 337, 537.50	2, 801, 283.00	379, 455.00	38, 518, 275.50
141, 875.00	.....	8, 219, 270.00	2, 579, 995.00	342, 475.00	11, 141, 740.00
135, 280.00	.....	5, 918, 630.00	5, 349, 035.00	246, 970.00	11, 514, 635.00
79, 440.00	.....	11, 706, 737.50	10, 269, 307.50	210, 800.00	22, 186, 845.00
8, 525.00	.....	7, 979, 844.00	10, 651, 045.50	8, 525.00	18, 639, 414.50
57, 998.50	.....	13, 235, 242.00	11, 932, 850.00	58, 186.50	25, 226, 278.50
162, 312.00	.....	9, 744, 645.00	14, 816, 776.00	165, 003.00	24, 726, 424.00
389, 649.55	.....	33, 322, 294.00	12, 615, 693.75	391, 395.95	46, 329, 383.70
392, 115.75	.....	67, 372, 810.00	9, 176, 163.75	428, 151.75	76, 977, 125.50
385, 811.00	.....	35, 849, 960.00	11, 500, 132.00	960, 400.00	48, 310, 492.00
455, 981.09	.....	3, 273, 960.00	13, 067, 968.45	1, 604, 770.41	17, 946, 698.86
232, 617.42	.....	1, 740, 216.50	14, 412, 369.25	796, 483.78	16, 949, 069.53
117, 653.84	.....	5, 576, 512.50	13, 047, 807.20	191, 622.04	23, 815, 941.74
176, 542.90	.....	4, 345, 542.00	20, 606, 057.50	343, 186.10	25, 294, 785.60
7, 665, 609.49	39, 926.11	664, 193, 619.50	264, 011, 209.50	17, 838, 413.08	946, 043, 242.08
214, 623.43	.....	2, 605.50	11, 824, 192.40	600, 733.66	12, 427, 531.56
7, 880, 232.92	39, 926.11	664, 196, 225.00	275, 835, 401.90	18, 439, 146.74	958, 470, 773.64

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Coinage of the mint at New Orleans from its organization, 1838, to

Calendar years.	GOLD.						SILVER.
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.	Dollars.
1838.....							
1839.....					\$44,452.50		
1840.....			\$152,000		65,500.00		
1841.....		\$25,000	41,750		18,450.00		
1842.....		274,000	82,000		49,500.00		
1843.....		1,751,620	505,375		920,005.00		
1844.....		1,187,000	1,823,600				
1845.....		475,000	205,000				
1846.....		817,800	290,000		165,000.00		\$59,000
1847.....		5,715,000	60,000		310,000.00		
1848.....		358,500					
1849.....		239,000				\$215,000	
1850.....	\$2,820,000	575,000			210,000.00	14,000	40,000
1851.....	6,300,000	2,630,000	205,000		370,000.00	290,000	
1852.....	3,800,000	180,000			350,000.00	140,000	
1853.....	1,420,000	510,000				290,000	
1854.....	65,000	525,000	230,000	\$72,000	382,500.00		
1855.....	160,000	180,000	55,500			55,000	
1856.....	45,000	145,000	50,000		52,750.00		
1857.....	600,000	55,000	65,000		85,000.00		
1858.....	705,000	200,000					
1859.....	182,000	23,000					360,000
1860.....	132,000	111,000					515,000
1861*.....	100,000						
1879.....	46,500	15,000					2,887,000
1880.....		92,000					5,305,000
1881.....		83,500					5,708,000
1882.....		108,200					6,090,000
1883.....		8,000					8,725,000
1884.....							9,730,000
1885.....							9,185,000
1886.....							10,710,000
Total .....	16,375,500	16,283,620	3,764,625	72,000	3,023,157.50	1,004,000	50,314,000
Dec. 31, 1886, to June 30, 1887 .....							5,900,000
Total .....	16,375,500	16,283,620	3,764,625	72,000	3,023,157.50	1,004,000	65,214,000

\* No coinage from 1862 to 1878, inclusive.

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

its suspension, 1861, and from its reopening, 1879, to June 30, 1887.]

SILVER—continued.					Total gold.	Total silver.	Total value.
Half dollars.	Quarter dollars.	Dimes.	Half dimes.	Three cents.			
		\$40,243.40				\$40,243.40	\$40,243.40
\$81,488		124,327.20	\$54,827.50		\$44,452.50	260,642.70	305,095.20
427,550	\$106,300	117,500.00	46,750.00		217,500.00	698,100.00	915,600.00
200,500	113,000	200,750.00	40,750.00		85,200.00	555,000.00	640,200.00
478,500	192,250	202,000.00	17,500.00		405,500.00	890,250.00	1,295,750.00
1,134,000	242,000	15,000.00			3,177,000.00	1,391,000.00	4,568,000.00
1,002,500	185,000		11,000.00		3,010,000.00	1,198,500.00	4,208,500.00
1,047,000		23,000.00			680,000.00	1,070,000.00	1,750,000.00
1,152,000					1,272,800.00	1,211,000.00	2,483,800.00
1,292,000	92,000				6,085,000.00	1,384,000.00	7,469,000.00
1,590,000			30,000.00		358,500.00	1,620,000.00	1,978,500.00
1,155,000		30,000.00	7,000.00		454,000.00	1,192,000.00	1,646,000.00
1,228,000	103,000	51,000.00	34,500.00		3,619,000.00	1,456,500.00	5,075,500.00
201,000	22,000	40,000.00	43,000.00	\$21,600	9,795,000.00	327,600.00	10,122,600.00
72,000	24,000	43,000.00	13,000.00		4,470,000.00	152,000.00	4,622,000.00
664,000	333,000	110,000.00	118,000.00		2,220,000.00	1,225,000.00	3,445,000.00
2,620,000	371,000	177,000.00	78,000.00		1,274,500.00	3,246,000.00	4,520,500.00
1,844,000	44,000		30,000.00		450,500.00	1,918,000.00	2,368,500.00
1,329,000	242,000	118,000.00	55,000.00		292,750.00	1,744,000.00	2,036,750.00
409,000	295,000	154,000.00	69,000.00		805,000.00	927,000.00	1,732,000.00
3,647,000	130,000	29,000.00	83,000.00		905,000.00	3,889,000.00	4,794,000.00
1,417,000	65,000	48,000.00	28,000.00		205,000.00	1,918,000.00	2,123,000.00
645,000	97,000	4,000.00	53,000.00		243,000.00	1,314,000.00	1,557,000.00
165,000					100,000.00	163,000.00	265,000.00
					61,500.00	2,887,000.00	2,948,500.00
					92,000.00	5,305,000.00	5,397,000.00
					83,500.00	5,708,000.00	5,791,500.00
					108,200.00	6,090,000.00	6,198,200.00
					8,000.00	8,725,000.00	8,733,000.00
						9,730,000.00	9,730,000.00
						9,185,000.00	9,185,000.00
						10,710,000.00	10,710,000.00
23,801,538	2,656,550	1,526,820.60	812,327.50	21,600	40,522,902.50	88,132,836.10	128,655,738.60
						5,900,000.00	5,900,000.00
23,801,538	2,656,550	1,526,820.60	812,327.50	21,600	40,522,902.50	94,032,836.10	134,555,738.60

XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

[Statement of coinage at the mint at Dahlonega, Ga., from its organization, 1838, to its suspension, 1861.]

Calendar year.	GOLD.				Total value.
	Half eagles.	Three dollars.	Quarter eagles.	Dollars.	
1838.....	\$102,915				\$102,915.00
1839.....	94,695		\$34,185.00		123,880.00
1840.....	114,480		8,830.00		123,310.00
1841.....	152,475		10,410.00		162,885.00
1842.....	298,040		11,607.50		309,647.50
1843.....	492,260		90,522.50		582,782.50
1844.....	444,910		43,330.00		488,240.00
1845.....	453,145		48,650.00		501,795.00
1846.....	401,470		48,257.50		449,727.50
1847.....	322,025		39,460.00		361,485.00
1848.....	237,325		34,427.50		271,752.50
1849.....	195,180		27,362.50	\$21,588	244,130.50
1850.....	219,750		30,370.00	8,382	258,502.00
1851.....	313,550		28,160.00	9,882	351,592.00
1852.....	457,260		10,195.00	6,360	473,815.00
1853.....	448,390		7,945.00	6,583	462,918.00
1854.....	282,065	\$3,360	4,400.00	2,935	292,760.00
1855.....	112,160		2,807.50	1,811	116,778.50
1856.....	98,930		2,185.00	1,460	102,575.00
1857.....	85,230		5,910.00	3,533	94,673.00
1858.....	76,810			3,477	80,287.00
1859.....	51,830		5,610.00	4,952	62,392.00
1860.....	73,175			1,566	74,741.00
1861.....	7,985				7,985.00
Total.....	5,536,055	3,360	494,625.00	72,529	6,106,569.00

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

Statement of coinage at the mint at Charlotte, N. C., from its organization, 1838, to its suspension, 1861.]

Calendar year.	GOLD.			Total value.
	Half eagles.	Quarter eagles.	Dollars.	
1838.....	\$64,565	\$19,770.00	.....	\$84,335.00
1839.....	117,335	45,432.50	.....	162,767.50
1840.....	95,140	32,095.00	.....	127,235.00
1841.....	107,555	25,742.50	.....	133,297.50
1842.....	137,400	16,842.50	.....	154,242.50
1843.....	221,765	65,240.00	.....	287,005.00
1844.....	118,155	29,055.00	.....	147,210.00
1845.....	.....	.....	.....	.....
1846.....	64,975	12,020.00	.....	76,995.00
1847.....	420,755	58,065.00	.....	478,820.00
1848.....	322,360	41,970.00	.....	364,330.00
1849.....	324,115	25,550.00	\$11,634	361,299.00
1850.....	317,955	22,870.00	6,966	347,791.00
1851.....	245,880	37,307.50	41,267	324,454.50
1852.....	362,870	24,430.00	9,434	396,734.00
1853.....	327,855	.....	11,515	339,370.00
1854.....	196,455	18,237.50	4	214,696.50
1855.....	198,940	9,192.50	9,803	217,935.50
1856.....	142,285	19,782.50	.....	162,067.50
1857.....	156,800	.....	13,280	170,080.00
1858.....	194,280	22,640.00	.....	216,920.00
1859.....	159,235	.....	5,235	164,470.00
1860.....	74,065	18,672.50	.....	92,737.50
1861.....	34,395	.....	.....	34,395.00
Total.....	4,405,135	544,915.00	109,138	5,059,188.00

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR

[Statement of coinage of the Mint at San Francisco]

Calendar years.	GOLD.						SILVER.	
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.	Dollars.	Trade dollars.
1854 .....	\$2,829,260	\$1,238,260	\$1,340	.....	\$615	\$14,632	.....	.....
1855 .....	17,593,500	90,000	305,000	\$19,800	.....	.....	.....	.....
1856 .....	23,795,000	680,000	525,500	103,500	177,800	24,600	.....	.....
1857 .....	19,410,000	260,000	435,000	42,000	170,000	10,000	.....	.....
1858 .....	16,934,200	118,000	93,000	.....	3,000	10,000	.....	.....
1859 .....	12,728,900	70,000	66,100	.....	38,000	15,000	\$20,000	.....
1860 .....	10,899,000	50,000	106,000	21,000	89,000	13,000	.....	.....
1861 .....	15,360,000	155,000	90,000	.....	60,000	.....	.....	.....
1862 .....	17,083,460	125,000	47,500	.....	20,000	.....	.....	.....
1863 .....	19,331,400	100,000	85,000	.....	27,000	.....	.....	.....
1864 .....	15,873,200	25,000	19,440	.....	.....	.....	.....	.....
1865 .....	20,850,000	107,000	138,060	.....	58,440	.....	.....	.....
1866 .....	16,845,000	200,000	219,600	.....	97,400	.....	.....	.....
1867 .....	18,415,000	90,000	145,000	.....	70,000	.....	.....	.....
1868 .....	16,750,000	135,000	260,000	.....	85,000	.....	.....	.....
1869 .....	13,735,000	64,300	155,000	.....	73,750	.....	.....	.....
1870 .....	19,640,000	80,000	85,000	.....	40,000	3,000	.....	.....
1871 .....	18,560,000	165,000	125,000	.....	55,000	.....	.....	.....
1872 .....	15,600,000	173,000	182,000	.....	45,000	.....	9,000	.....
1873 .....	20,812,000	120,000	155,000	.....	67,500	.....	700	\$703,000
1874 .....	24,280,000	100,000	80,000	.....	.....	.....	.....	2,549,000
1875 .....	24,600,000	.....	45,000	.....	29,000	.....	.....	4,487,000
1876 .....	31,940,000	50,000	20,000	.....	12,500	.....	.....	5,227,000
1877 .....	34,700,000	170,000	133,500	.....	88,500	.....	.....	9,519,000
1878 .....	34,780,000	261,000	723,500	.....	445,000	.....	9,774,000	4,162,000
1879 .....	24,476,000	2,240,000	2,131,000	.....	108,750	.....	9,110,000	.....
1880 .....	16,720,000	5,062,500	6,744,500	.....	.....	.....	8,900,000	.....
1881 .....	14,540,000	9,700,000	4,845,000	.....	.....	.....	12,760,000	.....
1882 .....	22,500,000	1,320,000	4,845,000	.....	.....	.....	9,250,000	.....
1883 .....	23,780,000	380,000	416,000	.....	.....	.....	6,250,000	.....
1884 .....	18,320,000	1,242,500	885,000	.....	.....	.....	3,200,000	.....
1885 .....	13,670,000	2,280,000	6,057,500	.....	.....	.....	1,497,000	.....
1886 (Dec. 31) .....	.....	8,260,000	16,340,000	.....	.....	.....	750,000	.....
Total .....	617,351,020	35,171,560	46,504,540	186,300	1,861,255	90,232	61,520,700	26,647,000
Dec. 31, 1886, to June 30, 1887 .....	.....	3,960,000	8,030,000	.....	.....	.....	16,000	.....
Total .....	617,351,020	39,131,560	54,534,540	186,300	1,861,255	90,232	61,536,700	26,647,000



## ORGANIZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES.

from its organization, 1854, to June 30, 1887.]

SILVER.					Total gold.	Total silver.	Total value.
Half dollars.	Quarter dollars.	Twenty cents.	Dimes.	Half dimes.			
					\$4,084,207.00		\$4,084,207.00
\$64,975.00	\$99,100.00				18,008,300.00	\$164,075.00	18,172,375.00
105,500.00	71,500.00		\$7,000.00		25,306,400.00	184,000.00	25,490,400.00
79,000.00	20,500.00				20,327,000.00	99,500.00	20,426,500.00
238,000.00	30,250.00		6,000.00		17,152,200.00	274,250.00	17,432,450.00
283,000.00	20,000.00		6,000.00		12,918,000.00	329,000.00	13,247,000.00
236,000.00	14,000.00		14,000.00		11,178,000.00	264,000.00	11,442,000.00
409,750.00	24,000.00		17,250.00		15,665,000.00	511,000.00	16,176,000.00
676,000.00	16,750.00		18,075.00		17,275,960.00	710,825.00	17,986,785.00
458,000.00			15,750.00	\$5,000.00	19,543,400.00	478,750.00	20,022,150.00
329,000.00	5,000.00		23,000.00	4,500.00	15,917,640.00	361,500.00	16,279,140.00
337,500.00	10,250.00		17,500.00	6,000.00	21,213,500.00	371,250.00	21,584,750.00
527,000.00	7,000.00		13,500.00	6,000.00	17,362,000.00	553,500.00	17,915,500.00
598,000.00	12,000.00		14,000.00	6,000.00	18,720,000.00	630,000.00	19,350,000.00
580,000.00	24,000.00		26,000.00	14,000.00	17,230,000.00	644,000.00	17,874,000.00
328,000.00	18,000.00		45,000.00	11,500.00	14,028,050.00	403,500.00	14,431,550.00
502,000.00			5,000.00		19,848,000.00	507,000.00	20,355,000.00
1,089,000.00	7,725.00		32,000.00	8,050.00	18,905,000.00	1,136,775.00	20,041,775.00
290,000.00	20,750.00		19,000.00	41,850.00	16,000,000.00	380,600.00	16,380,600.00
116,500.00	39,000.00		45,500.00	16,200.00	21,154,500.00	920,900.00	22,075,400.00
197,000.00	98,000.00		24,000.00		24,460,000.00	2,868,000.00	27,328,000.00
1,600,000.00	170,000.00	\$231,000.00	907,000.00		24,674,000.00	7,395,000.00	32,069,000.00
2,264,000.00	2,149,000.00		1,042,000.00		32,022,500.00	10,682,000.00	42,704,500.00
2,678,000.00	2,249,000.00		234,000.00		35,092,000.00	14,680,000.00	49,772,000.00
6,000.00	35,000.00				36,209,500.00	13,977,000.00	50,186,500.00
					28,955,750.00	9,110,000.00	38,065,750.00
					28,527,000.00	8,900,000.00	37,427,000.00
					29,085,000.00	12,760,000.00	41,845,000.00
					28,665,000.00	9,250,000.00	37,915,000.00
					24,576,000.00	6,250,000.00	30,826,000.00
			56,496.90		20,447,500.00	3,256,496.90	23,703,996.90
			4,369.00		22,007,500.00	1,501,369.00	23,508,869.00
			20,652.40		24,600,000.00	770,652.40	25,370,652.40
14,052,225.00	5,141,825.00	231,000.00	2,613,093.30	119,100.00	701,164,907.00	110,324,943.30	811,489,850.30
			69,160.20		11,990,000.00	85,160.20	12,075,160.20
14,052,225.00	5,141,825.00	231,000.00	2,682,253.50	119,100.00	713,154,907.00	110,410,103.50	823,565,010.50

## XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION

[Statement of the coinage of the mint at Carson City]

Calendar years.	GOLD.			SILVER.	
	Double eagles.	Eagles.	Half eagles.	Dollars.	Trade dollars.
1870.....	\$75,780	\$59,080	\$38,375	\$12,462	.....
1871.....	293,740	71,850	103,850	1,376	.....
1872.....	593,000	55,000	84,900	3,150	.....
1873.....	448,200	45,430	37,080	2,300	\$124,500
1874.....	2,301,700	167,670	105,990	.....	1,373,200
1875.....	2,223,020	77,150	59,140	.....	1,573,700
1876.....	2,768,820	46,960	34,435	.....	509,000
1877.....	851,300	33,320	43,400	.....	534,000
1878.....	263,600	32,440	45,270	2,212,000	97,000
1879.....	214,160	17,620	86,405	756,000	.....
1880.....	.....	111,900	255,085	591,000	.....
1881.....	.....	240,150	69,430	296,000	.....
1882.....	782,800	67,640	414,085	1,133,000	.....
1883.....	1,199,240	120,000	64,790	1,204,000	.....
1884.....	1,622,780	99,250	82,010	1,136,000	.....
1885.....	189,000	.....	.....	228,000	.....
<b>Total .....</b>	<b>13,827,140</b>	<b>1,245,460</b>	<b>1,524,245</b>	<b>7,575,288</b>	<b>4,211,400</b>

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

from its organization, 1870, to June 30, 1887.]

SILVER.				Total gold.	Total silver.	Total value.
Half dollars.	Quarter dollars.	Twenty cents.	Dimes.			
\$27,308.50	\$2,035.00	.....	.....	\$173,235	\$41,855.50	\$215,090.50
69,975.00	2,722.50	.....	\$2,010.00	469,440	76,083.50	545,523.50
136,000.00	2,275.00	.....	2,400.00	732,900	143,825.00	876,725.00
168,530.00	4,115.50	.....	3,119.10	530,710	302,564.60	833,274.60
29,500.00	.....	.....	1,081.70	2,575,360	1,403,781.70	3,979,141.70
504,000.00	35,000.00	\$26,658	464,500.00	2,359,310	2,603,858.00	4,963,168.00
978,000.00	1,236,000.00	2,000	827,000.00	2,850,215	3,552,000.00	6,402,215.00
710,000.00	1,048,000.00	.....	770,000.00	928,020	3,062,000.00	3,990,020.00
31,000.00	249,000.00	.....	20,000.00	341,310	2,609,000.00	2,950,310.00
.....	.....	.....	.....	318,185	756,000.00	1,074,185.00
.....	.....	.....	.....	366,985	591,000.00	957,985.00
.....	.....	.....	.....	309,580	296,000.00	605,580.00
.....	.....	.....	.....	1,264,525	1,133,000.00	2,397,525.00
.....	.....	.....	.....	1,384,030	1,204,000.00	2,588,030.00
.....	.....	.....	.....	1,804,040	1,136,000.00	2,940,040.00
.....	.....	.....	.....	189,000	228,000.00	417,000.00
2,654,313.50	2,579,198.00	28,658	2,090,110.80	16,596,845	19,138,968.30	35,735,813.30

XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO 1843.  
RECAPITULATION.

Calendar years.	GOLD COINAGE.						SILVER COINAGE.
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.	Trade dollars.
1793-1795.....		\$27,950	\$43,535				
1796.....		60,800	16,995		\$165.00		
1797.....		91,770	32,030		4,390.00		
1798.....		79,740	124,335		1,535.00		
1799.....		174,830	37,235		1,200.00		
1800.....		259,650	58,110				
1801.....		292,540	130,030				
1802.....		150,900	265,880		6,530.00		
1803.....		89,790	167,530		1,057.50		
1804.....		97,950	152,375		8,317.50		
1805.....			165,915		4,452.50		
1806.....			320,465		4,040.00		
1807.....			420,465		17,030.00		
1808.....			277,890		6,775.00		
1809.....			169,375				
1810.....			501,435				
1811.....			497,905				
1812.....			290,435				
1813.....			477,140				
1814.....			77,270				
1815.....			3,175				
1816.....							
1817.....							
1818.....			242,940				
1819.....			258,615				
1820.....			1,319,030				
1821.....			173,205		16,120.00		
1822.....			88,980				
1823.....			72,425				
1824.....			86,700		6,500.00		
1825.....			145,300		11,085.00		
1826.....			90,345		1,900.00		
1827.....			124,565		70,000.00		
1828.....			140,145				
1829.....			287,210		8,507.50		
1830.....			631,755		11,350.00		
1831.....			702,970		11,300.00		
1832.....			787,435		11,000.00		
1833.....			968,150		10,400.00		
1834.....			3,600,845		293,425.00		
1835.....			1,857,670		328,505.00		
1836.....			2,765,735		1,369,965.00		
1837.....			1,035,605		112,700.00		
1838.....		72,000	1,600,420		137,345.00		
1839.....		382,480	802,745		191,622.50		
1840.....		473,380	1,048,530		153,572.50		
1841.....		656,310	380,945		54,602.50		
1842.....		1,089,070	655,330		85,007.50		
1843.....		2,506,240	4,275,425		1,327,132.50		

ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

## SILVER COINAGE.

Dollars.	Half dollars.	Quarter dollars.	Twenty cents.	Dimes.	Half dimes.	Three cents.
\$204,791	\$161,572.00				\$4,320.80	
68,150		\$1,473.50		\$2,213.50	511.50	
12,546	1,959.00	63.00		2,526.10	2,226.35	
327,536				2,755.00		
423,515						
220,920				2,176.00	1,200.00	
54,454	15,144.50			3,464.00	1,695.50	
41,650	14,945.00			1,097.50	650.50	
66,064	15,857.50			3,304.00	1,892.50	
19,570	78,259.50	1,684.50		826.50		
321	105,861.00	30,348.50		12,078.00	780.00	
	419,788.00	51,531.00				
	525,788.00	55,160.75		16,500.00		
	684,300.00					
	702,905.00			4,471.00		
	638,138.00			635.50		
	601,822.00			6,518.00		
	814,029.50					
	620,951.50					
	519,537.50			42,150.00		
		17,308.00				
	23,575.00	5,000.75				
	607,783.50					
	980,161.00	90,293.50				
	1,104,000.00	36,000.00				
	375,561.00	31,861.00		94,258.70		
	652,898.50	54,212.75		118,651.20		
	779,786.50	16,020.00		10,000.00		
	847,100.00	4,450.00		44,000.00		
	1,752,477.00					
	1,471,583.00	42,000.00		51,000.00		
	2,002,090.00					
	2,746,700.00	1,000.00		121,500.00		
	1,537,600.00	25,500.00		12,500.00		
	1,856,078.00			77,000.00	61,500.00	
	2,382,400.00			51,000.00	62,000.00	
	2,936,830.00	99,500.00		77,135.00	62,135.00	
	2,398,500.00	80,000.00		52,250.00	48,250.00	
	2,603,000.00	39,000.00		48,500.00	68,500.00	
	3,206,002.00	71,500.00		63,500.00	74,000.00	
	2,676,003.00	488,000.00		141,000.00	138,000.00	
1,000	3,273,100.00	118,000.00		119,000.00	95,000.00	
	1,814,910.00	63,100.00		104,200.00	113,800.00	
	1,773,000.00	208,000.00		239,493.40	112,750.00	
300	1,748,768.00	122,786.50		229,638.70	108,285.00	
61,005	1,145,054.00	153,331.75		253,358.00	113,954.25	
173,000	355,500.00	143,000.00		363,000.00	98,250.00	
184,618	1,484,882.00	214,250.00		390,750.00	58,250.00	
165,100	3,056,000.00	403,400.00		152,000.00	58,250.00	

XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO DECEMBER 31, 1886.  
RECAPITULATION.

Calendar years.	GOLD COINAGE.						SILVER COINAGE.
	Double eagles.	Eagles.	Half eagles.	Three dollars.	Quarter eagles.	Dollars.	Trade dollars.
1844.....		\$1,250,610	\$4,087,715		\$89,345.00		
1845.....		736,530	2,743,640		276,277.50		
1846.....		1,018,750	2,736,155		279,272.50		
1847.....		14,337,580	5,382,685		482,060.00		
1848.....		1,813,340	1,863,560		98,612.50		
1849.....		6,775,180	1,184,645		111,147.50	\$936,789	
1850.....	\$26,225,220	3,489,510	860,160		895,547.50	511,301	
1851.....	48,043,100	4,393,280	2,651,955		3,867,337.50	3,658,820	
1852.....	44,860,520	2,811,060	3,689,635		3,283,827.50	2,201,145	
1853.....	26,646,520	2,522,530	2,305,095		3,519,615.00	4,384,149	
1854.....	18,052,340	2,305,760	1,513,235	\$491,214	1,896,397.50	1,657,016	
1855.....	25,046,820	1,487,010	1,257,090	171,465	600,700.00	824,883	
1856.....	30,437,560	1,429,900	1,806,665	181,530	1,213,117.50	604,416	
1857.....	28,757,500	481,060	1,232,970	104,673	796,235.00	801,602	
1858.....	21,873,480	343,210	439,770	6,399	144,082.50	131,472	
1859.....	13,782,840	253,930	361,235	46,914	142,220.00	193,431	
1860.....	22,584,400	278,830	352,365	42,465	164,360.00	51,234	
1861.....	74,989,060	1,287,330	3,332,130	18,216	3,241,295.00	527,499	
1862.....	18,926,120	234,950	69,825	17,355	300,882.50	1,326,885	
1863.....	22,187,200	112,480	97,360	15,117	27,075.00	6,250	
1864.....	19,958,900	60,800	40,540	8,040	7,185.00	5,950	
1865.....	27,874,000	267,050	144,535	3,495	62,302.50	3,725	
1866.....	30,820,500	237,800	253,200	12,090	105,175.00	7,180	
1867.....	23,436,300	121,400	179,600	7,950	78,125.00	5,250	
1868.....	18,722,000	241,550	288,625	14,625	94,062.50	10,525	
1869.....	17,238,100	82,850	163,925	7,575	84,612.50	5,925	
1870.....	22,819,480	164,430	143,550	10,605	51,387.50	9,335	
1871.....	20,456,740	254,650	245,000	8,990	68,375.00	3,930	
1872.....	21,230,600	244,500	275,350	6,090	52,575.00	3,530	
1873.....	55,456,700	173,680	754,605	75	512,562.50	125,125	\$1,225,000
1874.....	33,917,700	799,270	203,530	125,460	9,850.00	198,820	4,910,000
1875.....	32,737,820	78,350	105,240	60	30,050.00	420	6,279,600
1876.....	46,386,920	104,280	61,820	135	23,052.50	3,245	6,192,150
1877.....	43,504,700	211,490	182,660	4,464	92,630.00	3,920	13,092,710
1878.....	45,916,500	1,031,440	1,427,470	246,972	1,160,650.00	3,020	4,259,900
1879.....	28,889,260	6,120,320	3,727,155	9,090	331,225.00	3,030	1,541
1880.....	17,749,120	21,715,160	22,831,765	3,108	7,490.00	1,636	1,987
1881.....	14,585,200	48,796,250	33,458,430	1,650	1,700.00	7,660	960
1882.....	23,295,400	24,740,640	17,831,885	4,620	10,100.00	5,040	1,097
1883.....	24,980,040	2,595,400	1,647,990	2,820	4,900.00	10,840	979
1884.....	19,944,200	2,110,800	1,922,250	3,318	4,982.50	6,206	
1885.....	13,875,560	4,815,270	9,065,030	2,730	2,217.50	12,205	
Dec. 31, 1886.....	22,120	10,621,600	18,282,160	3,426	10,220.00	6,016	
Total.....	1,026,270,540	179,397,210	179,636,770	1,577,736	28,502,370.00	18,259,405	35,965,924
Dec. 31, 1886, to June 30, 1887.....	1,080	3,960,400	8,030,210	255	167.50	493	
Total.....	1,026,271,620	183,357,610	187,666,980	1,577,991	28,502,537.50	18,259,898	35,965,924

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

## SILVER COINAGE.

Dollars.	Half dollars.	Quarter dollars.	Twenty cents.	Dimes.	Half dimes.	Three cents.
\$20,000	\$1,885,500.00	\$1,068,000.00	.....	\$7,250.00	\$32,500.00	.....
24,500	1,341,500.00	230,500.00	.....	198,500.00	78,200.00	.....
169,600	2,257,000.00	127,500.00	.....	3,130.00	1,350.00	.....
140,750	1,870,000.00	275,500.00	.....	24,500.00	63,700.00	.....
15,000	1,880,000.00	36,500.00	.....	45,150.00	63,400.00	.....
62,600	1,781,000.00	85,000.00	.....	113,900.00	72,450.00	.....
47,500	1,341,500.00	150,700.00	.....	241,150.00	82,250.00	.....
1,300	301,375.00	62,000.00	.....	142,650.00	82,050.00	\$185,022.00
1,100	110,565.00	68,265.00	.....	196,550.00	63,025.00	559,905.00
46,110	2,430,354.00	4,146,555.00	.....	1,327,301.00	785,251.00	342,000.00
33,140	4,111,000.00	3,466,000.00	.....	624,000.00	365,000.00	20,130.00
26,000	2,288,725.00	857,350.00	.....	207,500.00	117,500.00	4,170.00
63,500	1,903,500.00	2,129,500.00	.....	703,000.00	299,000.00	43,740.00
94,000	1,482,000.00	2,726,500.00	.....	712,000.00	433,000.00	31,260.00
.....	5,998,000.00	2,002,250.00	.....	189,000.00	258,000.00	48,120.00
636,500	2,074,000.00	421,000.00	.....	97,000.00	45,000.00	10,950.00
733,930	1,032,850.00	312,350.00	.....	78,700.00	92,950.00	8,610.00
78,500	2,078,950.00	1,237,650.00	.....	209,650.00	164,050.00	14,940.00
12,090	802,175.00	249,887.50	.....	102,830.00	74,627.50	10,906.50
27,660	709,830.00	48,015.00	.....	17,196.00	5,923.00	643.80
31,170	518,785.00	28,517.50	.....	26,907.00	4,523.50	14.10
47,000	593,450.00	25,075.00	.....	18,550.00	6,675.00	255.00
49,625	899,812.50	11,381.25	.....	14,372.50	6,536.25	681.75
60,325	810,162.50	17,156.25	.....	14,662.50	6,431.25	138.75
182,700	769,100.00	31,500.00	.....	72,625.00	18,295.00	123.00
424,300	725,950.00	23,150.00	.....	70,660.00	21,930.00	153.00
445,462	829,758.50	23,935.00	.....	52,150.00	26,830.00	120.00
1,117,136	1,741,655.00	53,255.50	.....	109,371.00	82,493.00	127.80
1,118,600	866,775.00	68,762.50	.....	261,045.00	189,247.50	58.50
296,600	1,593,780.00	414,190.50	.....	443,329.10	51,830.00	18.00
.....	1,406,650.00	215,975.00	.....	319,151.70	.....	.....
.....	5,117,750.00	1,278,375.00	\$265,598	2,406,570.00	.....	.....
.....	7,451,575.00	7,839,287.50	5,180	3,015,115.00	.....	.....
.....	7,540,255.00	6,024,927.50	102	1,735,051.00	.....	.....
22,495,550	726,200.00	849,200.00	120	187,880.00	.....	.....
27,560,100	2,950.00	3,675.00	.....	1,510.00	.....	.....
27,897,355	4,877.50	3,738.75	.....	3,735.50	.....	.....
27,927,975	5,487.50	3,243.75	.....	2,497.50	.....	.....
27,574,100	2,750.00	4,075.00	.....	391,110.00	.....	.....
28,470,039	4,519.50	3,859.75	.....	767,571.20	.....	.....
28,136,875	2,637.50	2,218.75	.....	393,134.90	.....	.....
28,697,767	3,065.00	3,632.50	.....	257,711.70	.....	.....
31,423,886	2,943.00	1,471.50	.....	658,409.40	.....	.....
257,714,885	122,812,913.00	39,299,401.50	271,000	19,381,527.10	4,880,219.40	1,282,087.20
17,306,470	235.00	117.50	.....	502,530.10	.....	.....
275,021,355	122,813,148.00	39,299,519.00	271,000	19,884,057.20	4,880,219.40	1,282,087.20

XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES, FROM THEIR ORGANIZATION TO 1843.  
RECAPITULATION.

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1793-1795.....			
1796.....			
1797.....			
1798.....			
1799.....			
1800.....			
1801.....			
1802.....			
1803.....			
1804.....			
1805.....			
1806.....			
1807.....			
1808.....			
1809.....			
1810.....			
1811.....			
1812.....			
1813.....			
1814.....			
1815.....			
1816.....			
1817.....			
1818.....			
1819.....			
1820.....			
1821.....			
1822.....			
1823.....			
1824.....			
1825.....			
1826.....			
1827.....			
1828.....			
1829.....			
1830.....			
1831.....			
1832.....			
1833.....			
1834.....			
1835.....			
1836.....			
1837.....			
1838.....			
1839.....			
1840.....			
1841.....			
1842.....			
1843.....			



## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES.—Continued.

## RECAPITULATION.

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half cents.	Gold.	Silver.	Minor.	Total.
\$10,600.33	\$712.07	\$71,485.00	\$370,083.80	\$11,373.00	\$453,541.80
9,747.00	577.40	77,960.00	72,348.50	10,324.40	160,632.90
8,975.10	535.24	128,190.00	19,320.45	9,510.34	157,020.79
9,797.00	.....	205,610.00	330,291.00	9,797.00	545,698.00
9,045.85	60.83	213,285.00	423,515.00	9,106.68	645,906.68
28,221.75	1,057.65	317,760.00	224,296.00	29,279.40	571,335.40
13,628.37	.....	422,570.00	74,758.00	13,628.37	510,956.37
34,351.00	71.83	423,310.00	58,343.00	34,422.83	516,075.83
24,713.53	489.50	258,377.50	87,118.00	25,203.03	370,698.53
7,568.38	5,276.56	258,642.50	100,340.50	12,844.94	371,827.94
9,411.16	4,072.32	170,367.50	140,388.50	13,483.48	333,230.48
3,480.00	1,780.00	324,505.00	471,319.00	5,260.00	801,084.00
7,272.21	2,380.00	437,495.00	597,448.75	9,652.21	1,044,595.96
11,090.00	2,000.00	284,665.00	684,300.00	13,090.00	982,055.00
2,228.67	5,772.86	169,375.00	707,376.00	8,001.53	884,752.53
14,585.00	1,075.00	501,435.00	638,773.50	15,660.00	1,155,868.50
2,180.25	315.70	497,905.00	608,340.00	2,495.95	1,108,740.95
10,755.00	.....	290,435.00	814,029.50	10,755.00	1,115,219.50
4,180.00	.....	477,140.00	620,951.50	4,180.00	1,102,271.50
3,578.30	.....	77,270.00	561,687.50	3,578.30	642,535.80
.....	.....	3,175.00	17,308.00	.....	20,483.00
28,200.82	.....	.....	28,575.75	28,200.82	56,785.57
39,484.00	.....	.....	607,783.50	39,484.00	647,267.50
31,670.00	.....	242,940.00	1,070,454.50	31,670.00	1,345,064.50
26,710.00	.....	258,615.00	1,140,000.00	26,710.00	1,425,325.00
44,075.50	.....	1,319,030.00	501,680.70	44,075.50	1,864,786.20
3,890.00	.....	189,325.00	825,762.45	3,890.00	1,018,977.45
20,723.39	.....	88,980.00	805,806.50	20,723.39	915,509.89
.....	.....	72,425.00	895,550.00	.....	967,975.00
12,620.00	.....	93,200.00	1,752,477.00	12,620.00	1,858,297.00
14,611.00	315.00	156,385.00	1,564,583.00	14,926.00	1,735,894.00
15,174.25	1,170.00	92,245.00	2,002,090.00	16,344.25	2,110,679.25
23,577.32	.....	194,565.00	2,869,200.00	23,577.32	3,087,342.32
22,606.24	3,030.00	140,145.00	1,575,600.00	25,636.24	1,741,381.24
14,145.00	2,435.00	295,717.50	1,994,578.00	16,580.00	2,306,875.50
17,115.00	.....	643,105.00	2,495,400.00	17,115.00	3,155,620.00
33,592.60	11.00	714,270.00	3,175,600.00	33,603.60	3,923,473.60
23,620.00	.....	798,435.00	2,579,000.00	23,620.00	3,401,055.00
27,390.00	770.00	978,550.00	2,750,000.00	28,160.00	3,765,710.00
18,551.00	600.00	3,954,270.00	3,415,002.00	19,151.00	7,388,423.00
38,784.00	705.00	2,186,175.00	3,443,003.00	39,489.00	5,668,667.00
21,110.00	1,990.00	4,135,700.00	3,606,100.00	23,100.00	7,764,900.00
55,583.00	.....	1,148,305.00	2,096,010.00	55,583.00	3,209,898.00
63,702.00	.....	1,809,765.00	2,333,243.40	63,702.00	4,206,710.40
31,286.61	.....	1,376,847.50	2,209,778.20	31,286.61	3,617,912.31
24,627.00	.....	1,675,482.50	1,726,703.00	24,627.00	3,426,812.50
15,973.67	.....	1,091,857.50	1,132,750.00	15,973.67	2,240,581.17
23,833.90	.....	1,829,407.50	2,332,750.00	23,833.90	4,185,991.40
24,283.20	.....	8,108,797.50	3,834,750.00	24,283.20	11,967,830.70

XXXVI.—COINAGE OF THE MINTS OF THE UNITED STATES FROM THEIR ORGANIZATION TO THE PRESENT TIME.  
RECAPITULATION.

Calendar years.	MINOR COINAGE.		
	Five cents.	Three cents.	Two cents.
1844.....			
1845.....			
1846.....			
1847.....			
1848.....			
1849.....			
1850.....			
1851.....			
1852.....			
1853.....			
1854.....			
1855.....			
1856.....			
1857.....			
1858.....			
1859.....			
1860.....			
1861.....			
1862.....			
1863.....			
1864.....			\$396,950.00
1865.....		\$341,460.00	272,800.00
1866.....	\$737,125.00	144,030.00	63,540.00
1867.....	1,545,475.00	117,450.00	58,775.00
1868.....	1,440,850.00	97,560.00	56,075.00
1869.....	819,750.00	48,120.00	30,930.00
1870.....	240,300.00	40,050.00	17,225.00
1871.....	28,050.00	18,120.00	14,425.00
1872.....	301,800.00	25,860.00	1,300.00
1873.....	227,500.00	35,190.00	
1874.....	176,900.00	23,700.00	
1875.....	104,850.00	6,840.00	
1876.....	126,500.00	4,860.00	
1877.....			
1878.....	117.50	70.50	
1879.....	1,455.00	1,236.00	
1880.....	997.75	748.65	
1881.....	3,618.75	32,417.25	
1882.....	573,830.00	759.00	
1883.....	1,148,471.05	318.27	
1884.....	563,697.10	169.26	
1885.....	73,824.50	143.70	
1886.....	166,514.50	128.70	
Total.....	8,281,626.15	939,231.33	912,020.00
December 31, 1886, to June 30, 1887.....	386,055.60	54.63	
Total.....	8,667,681.75	939,285.96	912,020.00

## ZATION, BY CALENDAR YEARS AND BY DENOMINATION OF PIECES—Continued.

## RECAPITULATION.

MINOR COINAGE.		TOTAL COINAGE.			
Cents.	Half cents.	Gold.	Silver.	Minor.	Total.
\$23,987.52		\$5,427,670.00	\$3,013,250.00	\$23,987.52	38,464,907.52
38,948.04		3,756,447.50	1,873,200.00	38,948.04	5,668,595.54
41,208.00		4,034,177.50	2,558,580.00	41,208.00	6,633,965.50
61,836.69		20,202,325.00	2,374,450.00	61,836.69	22,638,611.69
64,157.99		3,775,512.50	2,040,050.00	64,157.99	5,879,720.49
41,785.00	\$199.32	9,007,761.50	2,114,950.00	41,984.32	11,164,695.82
44,268.44	199.06	31,981,738.50	1,866,100.00	44,467.50	33,892,306.00
98,897.07	738.36	62,614,402.50	774,397.00	99,635.43	63,488,524.93
50,630.94		56,846,187.50	999,410.00	50,630.94	57,896,228.44
66,411.31	648.47	39,377,909.00	9,077,571.00	67,059.78	48,522,539.78
42,361.56	276.79	25,915,962.50	8,619,270.00	42,638.35	34,577,870.85
15,748.29	282.50	29,387,968.00	3,501,245.00	16,030.79	32,905,243.79
26,904.63	202.15	35,673,188.50	5,142,240.00	27,106.78	40,842,535.28
177,834.56	175.90	32,214,040.00	5,178,760.00	178,010.46	37,870,810.46
246,000.00		22,938,413.50	8,495,370.00	246,000.00	31,679,783.50
364,000.00		14,780,570.00	3,284,450.00	364,000.00	18,429,020.00
205,660.00		23,473,654.00	2,259,390.00	205,660.00	25,938,704.00
101,000.00		83,395,530.00	3,783,740.00	101,000.00	87,280,270.00
280,750.00		20,875,997.50	1,252,516.50	280,750.00	22,409,264.00
498,400.00		22,445,482.00	809,267.80	498,400.00	23,753,149.80
529,737.14		20,081,415.00	609,917.10	926,687.14	21,618,019.24
354,292.86		28,295,107.50	691,095.00	968,552.86	29,954,665.36
98,265.00		31,435,945.00	982,409.25	1,042,960.00	33,461,314.25
98,210.00		23,828,625.00	908,876.25	1,819,910.00	26,557,411.25
102,665.00		19,371,387.50	1,074,343.00	1,697,150.00	22,142,880.50
64,200.00		17,582,987.50	1,266,143.00	963,000.00	19,812,130.50
52,750.00		23,198,787.50	1,378,255.50	350,325.00	24,927,368.00
39,295.00		21,032,685.00	3,104,038.30	99,890.00	24,236,613.30
40,420.00		21,812,645.00	2,504,488.50	369,380.00	24,686,513.50
116,765.00		57,022,747.50	4,024,747.60	379,455.00	61,426,950.10
141,875.00		35,254,630.00	6,851,776.70	342,475.00	42,448,881.70
135,280.00		32,951,940.00	15,347,893.00	246,970.00	48,546,803.00
79,440.00		46,579,452.50	24,503,307.50	210,800.00	71,293,560.00
8,525.00		43,999,864.00	28,393,045.50	8,525.00	72,401,434.50
57,998.50		49,786,052.00	28,518,850.00	58,186.50	78,363,088.50
162,312.00		39,680,080.00	27,569,776.00	165,003.00	66,814,859.00
389,649.55		62,308,279.00	27,411,693.75	391,395.95	90,111,368.70
392,115.75		96,850,890.00	27,940,163.75	428,151.75	125,219,205.50
385,811.00		65,887,685.00	27,973,132.00	960,400.00	94,821,217.00
455,981.09		29,241,990.00	29,246,968.45	1,604,770.41	60,093,728.86
232,617.42		23,991,756.50	28,534,866.15	796,483.78	53,323,106.43
117,653.84		27,773,012.50	28,962,176.20	191,622.04	56,926,810.74
176,542.90		28,945,542.00	32,086,709.90	343,186.10	61,375,438.00
7,665,609.49	39,926.11	1,433,644,031.00	481,607,957.20	17,838,413.08	1,933,090,401.28
214,623.43		11,992,605.50	17,809,352.60	600,733.66	30,402,691.76
7,880,232.92	39,926.11	1,445,636,636.50	499,417,309.80	18,439,146.74	1,963,493,093.04

XXXVII.—COINAGES OF VARIOUS COUNTRIES—CALENDAR YEARS, EXCEPT  
WHERE OTHERWISE STATED IN THE FOOT-NOTES.

Countries.	1884.		1885.		1886.	
	Gold.	Silver.	Gold.	Silver.	Gold.	Silver.
United States....	\$23,991,756	\$28,534,866	\$27,773,012	\$28,962,176	\$28,945,542	\$32,086,709
Mexico .....	<i>a</i> 328,696	<i>x</i> 25,377,378	<i>a</i> 423,250	<i>a</i> 25,840,727	<i>a</i> 367,490	<i>a</i> 26,991,804
Great Britain....	11,309,819	3,204,824	14,366,677	3,540,719	.....	2,031,194
Australia.....	22,196,106	.....	21,694,857	.....	22,524,595	.....
India *.....	.....	<i>b</i> 17,353,531	<i>b</i> 61,413	<i>b</i> 27,447,276	.....	27,121,414
Canada .....	.....	.....	.....	.....	.....	225,000
France .....	.....	23,160	55,854	.....	4,455,733	29,795
Cochin-China .....	.....	120,000	.....	1,279,511	.....	3,215,771
Monaco .....	.....	.....	164,648	.....	289,500	.....
Belgium .....	.....	.....	.....	.....	.....	†921,768
Italy .....	62,165	2,121,953	635,873	230,831	227,771	1,795,364
Switzerland .....	.....	.....	.....	.....	965,000	501,800
Spain .....	4,983,004	6,738,971	2,435,108	3,678,314	2,369,765	5,057,506
Portugal .....	186,840	.....	246,240	.....	179,626	299,765
Netherlands .....	.....	182,919	289,000	80,400	217,647	.....
Germany .....	13,723,494	114,319	1,939,443	577,664	8,506,210	1,153,963
Austria-Hungary	2,444,004	<i>c</i> †4,987,781	2,791,958	†4,147,659	2,684,139	†4,384,433
Norway .....	.....	.....	.....	53,600	539,484	.....
Sweden .....	1,022,420	132,784	33,500	78,281	982,188	.....
Denmark .....	.....	.....	.....	.....	.....	13,624
Russia.....	18,615,074	§1,238,746	20,685,852	§964,769	14,761,717	§1,304,101
Turkey .....	.....	.....	.....	.....	3,652,000	880,000
Egypt .....	.....	.....	.....	.....	.....	†13,204,151
Japan .....	<i>d</i> 569,415	<i>d</i> 3,599,912	<i>d</i> 1,004,005	<i>d</i> 6,320,927	<i>d</i> 900,165	<i>d</i> 9,086,077
Haiti.....	.....	.....	.....	.....	.....	144,750
Chili.....	.....	.....	77,580	564,080	37,210	966,030
Peru.....	.....	1,400,949	.....	1,326,266	.....	592,065
Colombia .....	.....	.....	.....	.....	26,965	1,354,826
Venezuela .....	.....	.....	.....	.....	.....	1,286,345
Brazil .....	.....	.....	58,738	12,090	20,653	30,373
Sandwich Islands	.....	700,000	.....	.....	.....	.....
Total .....	99,432,795	95,832,084	94,728,008	105,105,290	92,653,400	124,678,678

\* Rupee calculated at coining rate, \$0.4737.

† Recoinage of 5-franc pieces into subsidiary.

‡ Silver florin calculated at its coining rate, \$0.482.

§ Silver rouble calculated at coining rate, \$0.7718.

¶ Recoinage.

*a* Mexican dollars, fiscal year.

*b* Fiscal years.

*c* Includes recoinage of 1,038,004 florins of 20 kreutzers into 10 kreutzers.

*d* Value in yen, taken as dollars.

XXXVIII.—PRODUCTION OF GOLD AND SILVER IN THE UNITED STATES  
FROM THE ORGANIZATION OF THE MINT, IN 1792, TO 1844, AND ANNUALLY  
SINCE.

[The estimate from 1792 to 1873, inclusive, is by R. W. Raymond, Commissioner, and since  
by the Director of the Mint.]

Years.	Gold.	Silver.	Total.
April 2, 1792—July 31, 1834.....	\$14,000,000.	Insignificant.	\$14,000,000
July 31, 1834—December 31, 1844...	7,500,000	\$250,000	7,750,000
1845.....	1,008,327	50,000	1,058,327
1846.....	1,139,357	50,000	1,189,357
1847.....	889,085	50,000	939,085
1848.....	10,000,000	50,000	10,050,000
1849.....	40,000,000	50,000	40,050,000
1850.....	50,000,000	50,000	50,050,000
1851.....	55,000,000	50,000	55,050,000
1852.....	60,000,000	50,000	60,050,000
1853.....	65,000,000	50,000	65,050,000
1854.....	60,000,000	50,000	60,050,000
1855.....	55,000,000	50,000	55,050,000
1856.....	55,000,000	50,000	55,050,000
1857.....	55,000,000	50,000	55,050,000
1858.....	50,000,000	500,000	50,500,000
1859.....	50,000,000	100,000	50,100,000
1860.....	46,000,000	150,000	46,150,000
1861.....	43,000,000	2,000,000	45,000,000
1862.....	39,200,000	4,500,000	43,700,000
1863.....	40,000,000	8,500,000	48,500,000
1864.....	46,100,000	11,000,000	57,100,000
1865.....	53,225,000	11,250,000	64,475,000
1866.....	53,500,000	10,000,000	63,500,000
1867.....	51,725,000	13,500,000	65,225,000
1868.....	48,000,000	12,000,000	60,000,000
1869.....	49,500,000	12,000,000	61,500,000
1870.....	50,000,000	16,000,000	66,000,000
1871.....	43,500,000	23,000,000	66,500,000
1872.....	36,000,000	28,750,000	64,750,000
1873.....	36,000,000	35,750,000	71,750,000
1874.....	23,500,000	37,300,000	70,800,000
1875.....	33,400,000	31,700,000	65,100,000
1876.....	39,900,000	38,800,000	78,700,000
1877.....	46,900,000	39,800,000	86,700,000
1878.....	51,200,000	45,200,000	96,400,000
1879.....	38,900,000	40,800,000	79,700,000
1880.....	36,000,000	39,200,000	75,200,000
1881.....	34,700,000	43,000,000	77,700,000
1882.....	32,500,000	46,800,000	79,300,000
1883.....	30,000,000	46,200,000	76,200,000
1884.....	30,800,000	48,800,000	79,600,000
1885.....	31,800,000	51,600,000	83,400,000
1886.....	35,000,000	51,000,000	86,000,000
Total.....	1,739,886,769	750,100,000	2,489,986,769

## XXXIX.—WORLD'S PRODUCTION OF GOLD AND SILVER.

[Kilogram of gold, \$664.60. Kilogram of silver, \$41.56.]

Countries.	1883.				1884.			
	Gold.		Silver.		Gold.		Silver.	
	Kilos.	Dollars.	Kilos.	Dollars.	Kilos.	Dollars.	Kilos.	Dollars.
United States...	45,140	30,000,000	1,111,646	46,200,000	46,344	30,800,000	1,174,206	48,800,000
Australasia....	40,852	27,150,000	3,610	150,000	42,558	28,284,000	4,525	188,000
Mexico.....	1,438	956,000	711,480	29,560,000	1,780	1,183,000	655,870	27,258,000
European countries:								
Russia.....	30,272	20,119,000	9,990	415,000	32,913	21,874,000	9,360	389,000
Germany.....	458	304,000	1142,700	5,930,000	555	369,000	1160,000	6,650,000
Austria-Hungary.....	1,638	1,088,000	48,700	2,024,000	1,658	1,102,000	49,300	2,049,000
Sweden.....	37	25,000	1,583	66,000	20	13,000	1,816	75,000
Norway.....			5,645	235,000			6,387	265,000
Italy.....	f142	94,000	f29,259	1,216,000	f142	94,000	f29,259	1,216,000
Spain.....			§54,335	2,258,000			§54,335	2,258,000
Turkey.....	f10	7,000	f1,323	55,000	f10	7,000	f1,323	55,000
France.....			6,356	264,000			5,905	245,000
Great Britain.....	2	1,000	8,500	353,000			8,060	335,000
Dominion of Canada.....	1,435	954,000			¶1,435	954,000		
South American countries:								
Argentine Republic....	118	78,000	11,500	478,000	¶118	78,000	¶11,500	478,000
Colombia.....	15,802	3,856,000	118,287	760,000	15,802	3,856,000	118,287	760,000
Bolivia.....	109	72,000	384,985	16,000,000	¶109	72,000	¶384,985	16,000,000
Chile.....	1500	332,000	1160,000	6,650,000	500	332,000	160,000	6,650,000
Brazil.....	952	633,000			¶952	633,000		
Venezuela.....	5,023	3,338,000			17,033	4,674,000		
Peru.....	1180	120,000	145,909	1,908,000	180	120,000	45,909	1,908,000
Japan.....	1290	193,000	112,940	538,000	296	197,000	23,460	975,000
Africa.....	p1,078	717,000	p449	19,000	p1,250	830,000	p238	10,000
China (Amoor district).....	n8,057	5,355,000			n9,362	6,222,000		
Total.....	143,533	95,392,000	2,769,197	115,088,000	153,017	101,694,000	2,804,725	116,564,000

\* G. W. Griffin, United States consul at Sydney, reports the gold production of Australasia for 1886, at \$25,883,884, and for 1885 at \$27,361,603.

† The production officially reported with a deduction of 88,000 kilograms, given by Dr. Soetbeer for 1884, as the amount from foreign ores smelted.

‡ An estimate of the Bureau of the Mint based upon the production for 1885.

§ Estimate of Dr. Soetbeer for 1883.

¶ Estimate of the Bureau of the Mint, based upon the production for 1883.

a Export of gold and silver through the custom-house at Rio de Janeiro.

b Production of the two mills of "El Callao" Mining Company.

c Estimate of the Bureau of the Mint, based upon the exports of bullion and ore officially reported for 1886.

d Production of Government mines for 1886, and of private mines for 1885.

## XXXIX.—WORLD'S PRODUCTION OF GOLD AND SILVER.

Coining rate in United States silver dollars.]

1885.				1886.			
Gold.		Silver.		Gold.		Silver.	
<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>	<i>Kilos.</i>	<i>Dollars.</i>
47,848	31,800,000	1,241,578	51,600,000	52,663	35,000,000	1,227,141	51,000,000
41,287	*27,439,000	25,220	1,048,000	39,761	*26,425,000	29,403	1,222,000
1,304	867,000	772,670	32,112,000	924	614,000	....794,033	33,000,000
38,125	25,338,000	15,550	646,000	30,872	20,518,000	12,707	528,000
g1,378	916,000	†142,340	5,916,000	1,065	708,000	†156,400	6,500,000
h1,664	1,106,000	h50,310	2,091,000	†1,664	1,106,000	†50,310	2,091,000
47	31,000	2,326	96,000	67	45,000	3,081	129,000
.....	.....	7,200	290,000	.....	.....	17,200	290,000
f142	94,000	f29,259	1,216,000	142	94,000	29,259	1,216,000
.....	.....	§54,335	2,258,000	.....	.....	§54,335	2,258,000
f10	7,000	f1,323	55,000	o 10	7,000	1,323	55,000
.....	.....	51,000	2,120,000	.....	.....	†51,000	2,120,000
.....	.....	7,607	316,000	.....	.....	10,124	421,000
m1,080	720,000	.....	.....	†1,000	665,000	.....	.....
.....	.....	.....	.....	.....	.....	.....	.....
†118	78,000	†11,500	478,000	†118	78,000	†11,500	478,000
f3,762	2,500,000	f9,625	400,000	3,762	2,500,000	9,625	400,000
†109	72,000	†384,985	16,000,000	†109	72,000	†384,985	16,000,000
f260	173,000	f180,342	7,495,000	260	173,000	180,342	7,495,000
1,204	800,000	2,640	110,000	a1,502	998,000	a141	6,000
7,033	4,674,000	.....	.....	5,020	b3,336,000	.....	.....
226	150,000	47,840	1,988,000	c170	113,000	c96,246	4,000,000
265	176,000	23,085	960,000	d333	221,000	d24,855	1,033,000
p2,083	1,384,000	p1,274	53,000	p2,163	1,438,000	p3,165	132,000
n6,997	4,650,000	.....	.....	o5,492	3,650,000	.....	.....
154,942	102,975,000	3,062,009	127,257,000	147,097	97,761,000	3,137,175	130,383,000

f Estimated same as officially communicated for 1886.

g Monatshefte zur Statistik des Deutschen Reichs, October, 1886.

h Official for Austria for 1885, with official for Hungary for 1884 added.

i Estimated same as officially communicated for 1882.

! Estimated same as officially communicated for 1884.

m Financial and Mining Record, July 17, 1886.

n Dr. Ivan C. Michels.

o Imports of gold into Great Britain from China.

p Imports into United Kingdom from West and South Africa extracted from Board of Trade returns by A. Sauerbeck, F. S. S.

## XL.—RATIO OF SILVER TO GOLD EACH YEAR SINCE 1687.

[NOTE.—From 1687 to 1832 the ratios are taken from Dr. A. Soetbeer; from 1833 to 1878 from Pixley and Abell's tables; and from 1878 to 1886 from daily telegrams from London to the Bureau of the Mint.]

Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.	Year.	Ratio.
1687..	14.94	1721..	15.05	1755..	14.68	1788..	14.65	1821..	15.95	1854..	15.33
1688..	14.94	1722..	15.17	1756..	14.94	1789..	14.75	1822..	15.80	1855..	15.38
1689..	15.02	1723..	15.20	1757..	14.87	1790..	15.04	1823..	15.84	1856..	15.38
1690..	15.02	1724..	15.11	1758..	14.85	1791..	15.05	1824..	15.82	1857..	15.27
1691..	14.98	1725..	15.11	1759..	14.15	1792..	15.17	1825..	15.70	1858..	15.38
1692..	14.92	1726..	15.15	1760..	14.14	1793..	15.00	1826..	15.76	1859..	15.19
1693..	14.83	1727..	15.24	1761..	14.54	1794..	15.37	1827..	15.74	1860..	15.29
1694..	14.87	1728..	15.11	1762..	15.27	1795..	15.55	1828..	15.78	1861..	15.50
1695..	15.02	1729..	14.92	1763..	14.99	1796..	15.65	1829..	15.78	1862..	15.35
1696..	15.00	1730..	14.81	1764..	14.70	1797..	15.41	1830..	15.82	1863..	15.37
1697..	15.20	1731..	14.94	1765..	14.83	1798..	15.59	1831..	15.72	1864..	15.37
1698..	15.07	1732..	15.09	1766..	14.80	1799..	15.74	1832..	15.73	1865..	15.44
1699..	14.94	1733..	15.18	1767..	14.85	1800..	15.68	1833..	15.93	1866..	15.43 <sup>o</sup>
1700..	14.81	1734..	15.39	1768..	14.80	1801..	15.46	1834..	15.73	1867..	15.57
1701..	15.07	1735..	15.41	1769..	14.72	1802..	15.26	1835..	15.80	1868..	15.59
1702..	15.52	1736..	15.18	1770..	14.62	1803..	15.41	1836..	15.72	1869..	15.60
1703..	15.17	1737..	15.02	1771..	14.66	1804..	15.41	1837..	15.83	1870..	15.57
1704..	15.22	1738..	14.91	1772..	14.52	1805..	15.79	1838..	15.85	1871..	15.57
1705..	15.11	1739..	14.91	1773..	14.62	1806..	15.52	1839..	15.62	1872..	15.63
1706..	15.27	1740..	14.94	1774..	14.62	1807..	15.43	1840..	15.62	1873..	15.92
1707..	15.44	1741..	14.92	1775..	14.72	1808..	16.08	1841..	15.70	1874..	16.17
1708..	15.41	1742..	14.85	1776..	14.55	1809..	15.96	1842..	15.87	1875..	16.59
1709..	15.31	1743..	14.85	1777..	14.54	1810..	15.77	1843..	15.93	1876..	17.88
1710..	15.22	1744..	14.87	1778..	14.68	1811..	15.53	1844..	15.85	1877..	17.22
1711..	15.29	1745..	14.98	1779..	14.80	1812..	16.11	1845..	15.92	1878..	17.94
1712..	15.31	1746..	15.13	1780..	14.72	1813..	16.25	1846..	15.90	1879..	18.40
1713..	15.24	1747..	15.26	1781..	14.78	1814..	15.04	1847..	15.80	1880..	18.05
1714..	15.13	1748..	15.11	1782..	14.42	1815..	15.26	1848..	15.85	1881..	18.16
1715..	15.11	1749..	14.80	1783..	14.48	1816..	15.28	1849..	15.78	1882..	18.19
1716..	15.09	1750..	14.55	1784..	14.70	1817..	15.11	1850..	15.70	1883..	18.64
1717..	15.13	1751..	14.39	1785..	14.92	1818..	15.35	1851..	15.46	1884..	18.57
1718..	15.11	1752..	14.54	1786..	14.96	1819..	15.33	1852..	15.59	1885..	19.41
1719..	15.09	1753..	14.54	1787..	14.92	1820..	15.62	1853..	15.33	1886..	20.78
1720..	15.04	1754..	14.48								

NOTE.—Table XLI ("Monetary Statistics of Foreign Countries") is omitted for want of space. It will be found in the separate volume of the Director's report.